

BAKER

Products



Blue Streak™ Model 3638D

Portable Band Sawmill

User Manual

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INTRODUCTION

Thank you and congratulations on the purchase of your new **Baker Blue Streak Portable Band Sawmill**. It has been designed to be durable, productive and easy to use. When properly ran and maintained, it will provide you with many years of profitable operation.

For safety reasons, and for your own best use of the **Baker Blue Streak Portable Band Sawmill**, we insist that you read this manual fully, and constantly review and refer back to it as necessary.

No one should attempt to operate or perform maintenance on this equipment until they have taken the time to read and understand the information contained in this manual.

**** FAILING TO DO SO MAY RESULT IN SERIOUS INJURY ****

Machine Purpose

The **Baker Blue Streak Portable Band Sawmill** was designed to handle large logs (*specified and agreed to diameter and lengths*) and is built for high-production, industrial saw milling while utilizing thin kerf technology.



Machine Function

Your **Baker Blue Streak Portable Band Sawmill** is equipped with a 38-HP Kubota diesel engine and has a cutting capacity of 36-inches (91 cm's) maximum diameter and 20 feet 6 inch long logs (standard model). It has been configured to either accommodate 1¼ -inch, 1½-inch; or 2-inch band blades. The large throat provides clear line of sight as well as an operator's station that contains all necessary controls in one convenient location.



Definition of Terms

All Stop	Safety button (typically “red”) designed to immediately shut-down machine operation
Bark	The outer-most protective layer of a tree composed of dead cork and other elements
Band Saw	A saw consisting of a continuous piece of flexible steel, with teeth on one side
Board Foot or Board Feet	A form of measurement where one board foot equals the volume of a board 1 inch thick by 12 inches wide and 12 inches long (1" x 12" x 12" = 1 board foot)
Cant	The 3 or 4 sided timber left over from a log, normally the center or core of the log
Cant Hook	A device used for rolling cants or logs
Carriage	A framework on wheels that allows movement of the saw back and forth past the log
CFM (cubic feet per minute)	A measure of the volume of a <u>substance flowing through air</u> within a fixed period of time
De-barker	A device used to remove bark from logs prior to processing or sawing
Diagram	A plan, sketch, drawing, or outline designed to graphically demonstrate or explain how something works or to clarify the relationship between the parts of a whole
Edge Guide	A straight edge that is used to guide a 3-sided flitch along a piece of material
Edger	A sawmill machine used to remove wany edges from flitches after they come off the sawmill, squaring the edges and ripping the flitch into lumber
End Stop	A mechanism designed to stop the progress of an off-loading board
Fence (Arm)	A straight guide used to keep a log, cant or board a set distance from a blade or cutter
Flitch	A longitudinal section of a log with wany edges
Saw head or Head Saw	The principle support structures on a sawmill that carries the engine, wheels and band blade used for the initial breakdown of a log
Kerf	The groove or thickness of the path cut by the saw teeth; the total amount of sawdust removed during a single cut
Lift Point	A point where pressure can and should be applied for lifting
Live Rollers	A powered roll case that mechanically moves material
Lockout / Tagout	Requires authorized employee(s) to lock and tag the energy-isolating device(s) to prevent the release of hazardous energy in order to prevent injury to employees, normally while performing maintenance or repairs
Log Bunk	A cross support that a log is loaded onto
Lumber (board)	A longitudinal section of a log after the wany edges have been removed, normally a 4-sided rectangular shaped piece
Off-load	The side of a machine where the work piece (slab, cant, board, etc.) exits
Production Rate	A produced or processed quantity measure with respect to another measured quantity of time; for example number of boards per minute, board feet per hour, per day, per week, etc.
Roll-case	A mechanical apparatus with elongated cylinders used to perform rolling operation for material movement, can be both powered and/or manually operated
Schematic	A structural or procedural diagram, typically of an electrical or hydraulic system



Slab	The exterior portion of a log removed by the saw, having one flat and one rounded portion of a log
Thin Kerf	A relative term, typically referencing band saw blades which are usually thinner than circular saw blades thus resulting in greater lumber recovery, accuracy and smooth finish
Wany	Waning or diminished in some parts; not of uniform size throughout; sawed boards or timber that is tapered or uneven, from being cut too near the outside of the log, barky
Yield	To generate a return for effort, an amount produced

Manual Contents Notice

This manual is not totally comprehensive. It does not and cannot convey every possible safety and operational problem that may arise while using this machine. The manual will cover many of the basic and specific safety procedures needed in an industrial environment.

All federal and state laws and any regulations having jurisdiction covering the safety requirements for use of this machine take precedence over the statements in this manual. Users of this machine must adhere to such regulations.

Machine Specifications and Requirements

Power - Model 3638D: 38-HP Kubota diesel engine Cutting Capacity: 36 in (91 cm) maximum diameter 28 in (71 cm) through center Log Length Capacity: 20 ft 6 in – * standard * Other lengths available upon request	Mill Dimensions & Weight: <u>20 foot (6.10 m) Model:</u> Length: 30 ft (9.14 m) Width: 8 ft (2.44 m) Height: 9 ft, 1 in (2.77 m) Weight: 8,720 lbs (3,955 kg) Tongue Weight: 760 lbs (344 kg) for both 21 foot and 24 foot model	Band Blades: 17 ft 4 in x 2 in (5.28 m x 50.8 mm) or 17 ft 4 in x 1 ½ in (5.28 m x 38.1 mm) 17 ft 4 in x 1 ¼ in (5.28 m x 31.75 mm) Blade Thickness: 0.042 in (1 mm) Band Wheels: 28 in (71 cm) diameter; all-steel with crown Sawdust Removal: 6" (152mm) outlet; min. 1,300 CFM suction recommended at dust removal chute
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Warranty

Ellington Industrial Supply, Inc. machinery is warranted against defects in material or workmanship starting from the date of shipment from the manufacturing plant.

This warranty is given solely to the “original purchaser” of the equipment and is in no way to be expressed or implied that it is transferable to any other parties without the written consent and approval from the CEO or Sales Manager of Baker Products.

Our one (1) year warranty period covers all items built at our manufacturing facilities including structural frame, cowlings, doors, shafting, dust chutes and guards.

We honor six (6) months of warranty coverage for miscellaneous vendor-purchased-supplied items including bearings, chain, sprockets, hydraulic components, etc.

Ninety (90) days of warranty coverage is provided on all electrical parts. All electrical components and wiring has been installed in accordance with the National Electrical Code (NEC) of the United States of America.

Ellington Industrial Supply, Inc. does not warranty this machine to meet any other requirements or jurisdiction of any electrical or safety codes of any other state, municipality, other country or jurisdiction. The purchaser assumes all risk and liability whatsoever resulting from the use thereof whether used singularly or in conjunction with other machinery or apparatus, including, but not limited to, all matters resulting from sawdust generation.

Note: *No warranty is provided on any electrical components or parts if equipment is powered or connected to a roto-phase electrical converter in order to create a three phase power supply for operational current from a single phase source.*

Any change in materials, design, or performance intended to improve any product of Ellington Industrial Supply, Inc. shall not obligate Ellington Industrial Supply, Inc. to modify any previously manufactured equipment.

This manual may contain details that if not properly followed can affect the performance of your equipment. You are responsible for proper use and maintenance of your equipment and we reserve the right to deny warranty work if deemed to be caused by a lack of proper maintenance or negligence by the owner or any of their employees.



Defective Parts

Parts claimed defective must be returned freight prepaid, to our plant in Ellington, Missouri. Any part determined defective due to faulty workmanship or materials will be replaced or repaired (at our option) free of charge, F.O.B. our plant. This warranty does not cover expendable items (i.e. drive belts, band wheels, conveyor belting, blades, cutters, guides, etc.). Except as expressly provided herein, this warranty is in lieu of all other warranties, expressed or implied, including a warranty of merchantability or fitness for a particular purpose. This warranty is "void" if any part of the unit has been tampered with, modified, altered, or operated with parts other than supplied or recommended by Ellington Industrial Supply, Inc. In no event shall Ellington Industrial Supply, Inc. be liable for special, indirect, incidental or consequential damages, however arising, including but not limited to, the loss of earnings or the cost of downtime.

Service Policy

In the event that you have any problems, call us at (573) 663-7711 any time between 8:00 AM and 5:00 PM (CST), Monday through Friday. A member of our trained staff will answer any questions you may have. We charge nothing for this service.

The only charge is for replacement parts not covered by warranty or after our inspection we deem that the problem is due to operator error or lack of proper maintenance or neglect.

If it is necessary for a member of our service department to visit your plant at your request, there will be a charge for this service. Call our service department for current prices.

Retain this Information for your Records

Model Number:
Serial Number:
Date of Purchase:
Power Source:.....
Dust Removal:

Ellington Industrial Supply, Inc.

P. O. Box 128

Ellington, Missouri 63638 USA





Web site: www.baker-online.com E-mail: info@baker-online.com

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RULES FOR SAFE OPERATION

The purpose of safety symbols and signage is to draw your attention to real or possible hazardous conditions that may exist when operating this equipment. Please remember that safety symbols and signage alone do not eliminate danger and are not substitute for proper training and education regarding operational hazards.

	This symbol and warning indicates a potentially hazardous situation, which, if not avoided, <u>will</u> result in death or serious injury.
	This symbol and warning indicates a potentially hazardous situation, which, if not avoided, <u>could</u> result in death or serious injury.
	This symbol and warning indicates a potentially hazardous situation, which, if not avoided, <u>may</u> result in minor or moderate injury.
	This warning provides notice and instruction regarding a potentially hazardous situation, which, if not avoided <u>will</u> result in serious injury or death.

SAFETY EXPECTATIONS FOR OPERATING POWER EQUIPMENT ALWAYS...

- ENSURE THAT TRAINED PERSONNEL OPERATE, MAINTAIN AND REPAIR THIS EQUIPMENT
- **TURN POWER OFF AND LOCKOUT / TAGOUT PRIOR TO PERFORMING MAINTENANCE**
- KEEP WORK AREA CLEAN AND WELL LIGHTED TO MINIMIZE OR ELIMINATE HAZARDS
- KEEP CHILDREN AND VISITORS AWAY FROM OPERATING EQUIPMENT
- OPERATE THE EQUIPMENT AT THE RATE IT WAS DESIGNED FOR
- KEEP GUARDS IN PLACE WHEN OPERATING EQUIPMENT
- REMOVE TOOLS BEFORE RESUMING OPERATION
- USE PROPER EXTENSION CORD
- WEAR PROPER APPAREL AND AVOID LOOSE CLOTHING AND ACCESSORIES THAT COULD GET CAUGHT IN MOVING PARTS
- ALWAYS WEAR SAFETY GLASSES AND HEARING PROTECTION
- AVOID "KICK-BACK" BY KNOWING WHAT CONDITIONS CAN CREATE IT
- CHECK DAMAGED PARTS AND REPAIR OR REPLACE THEM IMMEDIATELY

NEVER...

- LEAVE MACHINERY RUNNING OR UNATTENDED, ALWAYS TURN POWER OFF
- OPERATE EQUIPMENT WHEN TIRED, FATIGUED OR UNDER THE INFLUENCE OF DRUGS OR ALCOHOL
- ALLOW UNTRAINED PERSONNEL TO OPERATE, MAINTAIN OR REPAIR THIS EQUIPMENT

No list of safety expectations can ever be complete as every work environment is as different as are the people operating the equipment.

Always keep safety as your highest priority and always use this machine with caution and respect.

Control of Hazardous Energy – (Lockout / Tagout)

Lockout / Tagout (LOTO) refers to specific practices and procedures to safeguard employees from the unexpected energy, startup of machinery/equipment, or the release of hazardous energy during service or maintenance activities.

This requires that a designated individual turn off and disconnect the machinery/equipment from its energy source(s) before performing service or maintenance and that the authorized employee(s) lock and tag the energy-isolating device(s) to prevent the release of hazardous energy and take steps to verify that the energy has been isolated effectively.

Note: For diesel powered portable sawmills this requires the key to be completely removed from the ignition and a “do not operate” tag attached in its place.

List of Related Terms

Affected Employee	An employee whose job requires them to operate a machine or piece of equipment on which service or maintenance is being performed.
Authorized Employee	A person who locks or implements a tagout system procedure on machines or equipment to perform service or maintenance on that machine or equipment. An authorized employee and an affected employee may be the same person when the affected employee's duties also include performing service or maintenance.
Energy Source	Any source of electrical, mechanical, hydraulic, pneumatic, chemical, thermal, or other energy.
Lockout	The placement of a lockout device (such as a lock) on an energy-isolating device, in accordance with an established procedure that ensures the device and the equipment cannot be operated until the lockout device is removed.
Servicing and / or Maintenance	Workplace activities such as constructing, installing, setting up, adjusting, inspecting, modifying, maintaining or servicing machines or equipment. These activities include lubrication, cleaning or un-jamming of machines or equipment, and making adjustments or tool changes where the employee may be exposed to the unexpected energy, start-up of equipment or release of hazardous energy.
Tagout	The placement of a tagout device (such as a tag) on an energy-isolating device, in accordance with an established procedure that ensures the device and the equipment may not be operated until the tagout device is removed.

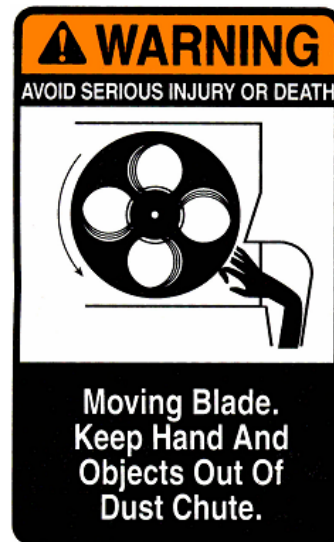
Example of lockout tags, lockout hasp and keyed lock



The Fatal Five Main Causes of Lockout/Tagout Injuries

1. **Failure to stop equipment**
2. **Failure to disconnect from a power source**
3. **Failure to dissipate (bleed, neutralize) residual energy**
4. **Accidental re-starting of equipment**
5. **Failure to clear work areas before re-starting**

Machine Safety Decals ** Adhere to ALL Safety Warnings! **



Safety First

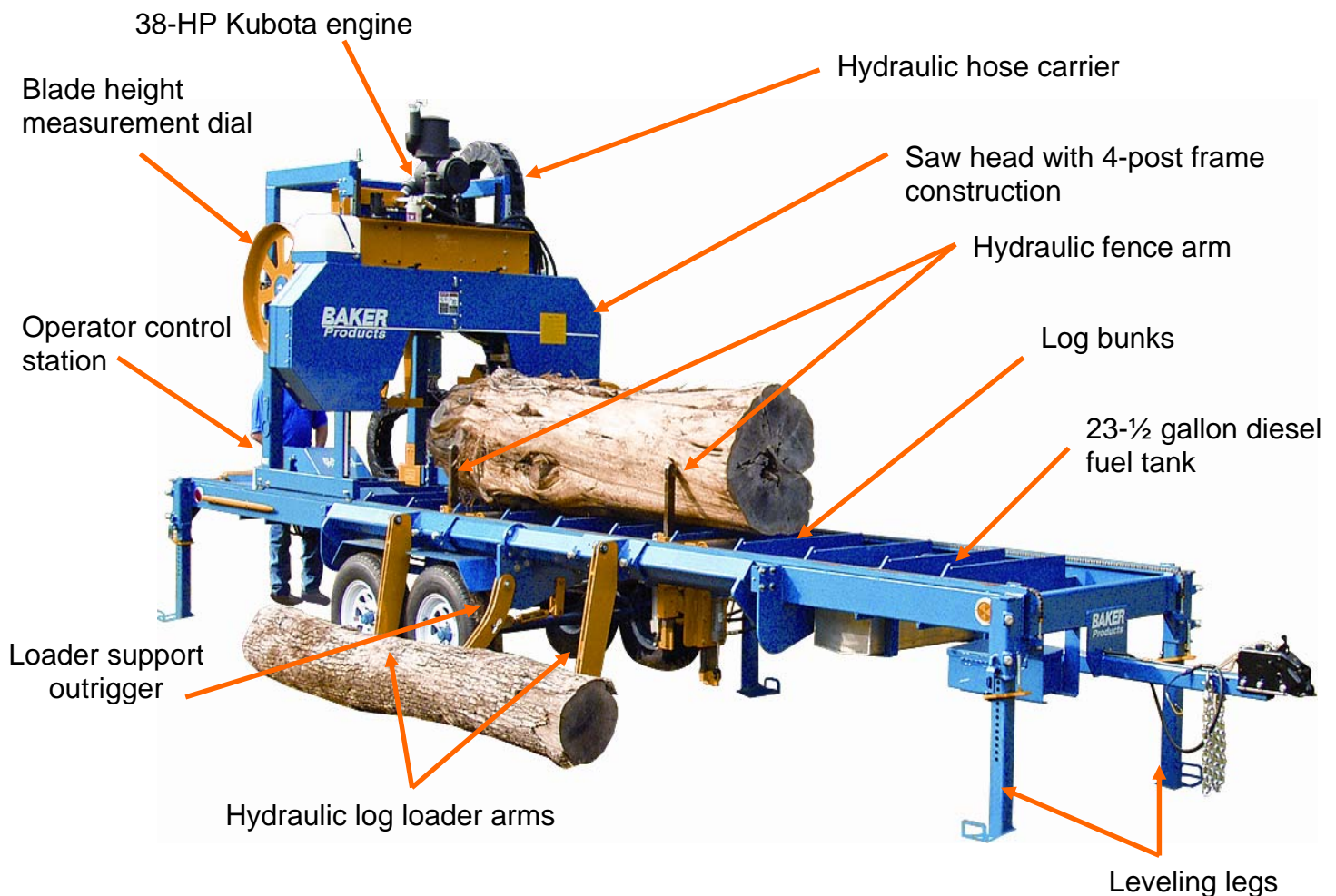
- ⚠ Always allow all moving parts to stop completely before changing blade or servicing machine.
- ⚠ Never operate machine without guards and doors in place.
- ⚠ Always wear eye and ear protection when operating machine.
- ⚠ Never wear loose clothing when operating this machine.
- ⚠ Always keep fingers and hands away from blade while operating machine.

DANGER-SHARP CUTTERS

MACHINE FEATURES

We want to highlight the unique and special features of the **Baker Blue Streak Portable Band Sawmill**.

- Heavy-duty steel construction
- Powerful and reliable diesel engine
- Handles logs up to 36 inches in diameter
- Accommodates 1¼ -inch, 1½ -inch or special order 2 -inch band blades
- Operator controls in one convenient location
- Head raises and lowers with hydraulic powered linear rail system
- Hydraulic log loader, log turner, clamps and toe rollers
- Hydraulic feed and board drag back



Model 3638D - Portable Sawmill



SET-UP

Receiving and Inspection

- ☐ Upon receipt and prior to signing transport carrier's documents, conduct a walk-around and visual inspection of your new equipment. Note any damage in writing upon the carrier's bill of lading and contact us immediately.

Note: *All new equipment is assembled and thoroughly tested prior to shipment, however damage may occur during transit, which could cause the machine to not operate correctly during start-up.*

Operator Training

- ☐ According to many OSHA, ANSI, STATE, and LOCAL CODES, it is the EMPLOYER'S RESPONSIBILITY to:

- Permit only trained and authorized employees to operate and maintain equipment.
- Inspect and maintain guards, safety devices and start/stop controls.
- Instruct, train and supervise the safe method of work.

- ☐ Be sure personnel are properly trained and safety rules are clearly understood before operating or performing maintenance.

- ✓ **Operator**
- ✓ **Machine**
- ✓ **Guards**
- ✓ **Devices**
- ✓ **Instructions**

All five (5) of these listed items together make up the safety system. Failure of any one of these factors will increase accident potential.

***FREE TRAINING ON PROPER SET-UP AND
OPERATION IS AVAILABLE ON SITE AT
THE MANUFACTURER'S FACILITY***

Machine Positioning (*Placement and Alignment*)

- ☐ For optimum performance, designate a solid and level foundation that is covered, dry and free of environmental elements such as rain or snow that could cause electrical or slip hazards.
- ☐ Ensure the wheels are blocked front and rear.
- ☐ Ensure all safety chains, brake and light connectors are unhooked from the tow vehicle.
- ☐ Rotate the hitch jack to the vertical position and install the locking pin.
- ☐ Remove the cotter pin from the sawmill hitch coupler and pull up on the t-handle latch to release the hinged ball socket head from tow vehicle hitch ball.
- ☐ Rotate the jack handle clockwise and raise the mill off the tow vehicle hitch ball.
- ☐ Move the tow vehicle forward and out of the way.
- ☐ Adequate sized wood blocks or steel plates may be placed under each leveling leg to improve stability on soft ground.
- ☐ Provide sufficient workspace clearance on all sides, especially around off-load area.
- ☐ Use a 1-1/8" wrench to loosen the two jamb nuts and bolts on each leveling leg (see **Figure 13**).
- ☐ Hold the leveling leg handle with one hand and with the other hand press down on the yellow leg lock release handle and allow the leg to slide to the ground.
- ☐ After the leg is on the ground, tighten the leg locking bolts.
- ☐ Repeat this procedure for each of the remaining leveling legs.

Leveling leg lock release handle

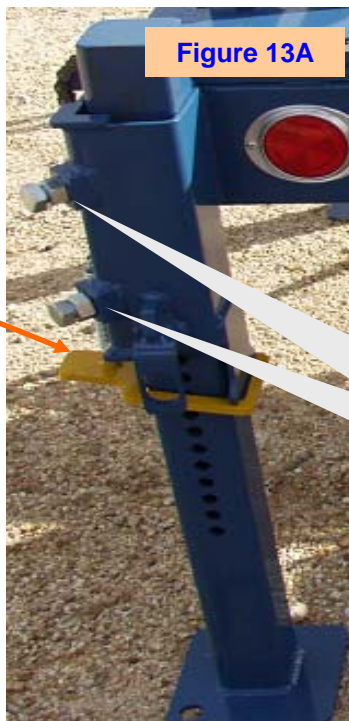


Figure 13A

Leg locking bolts and jam nut

Leveling jack handle and insertion point

Jacking holes

Leveling leg handle

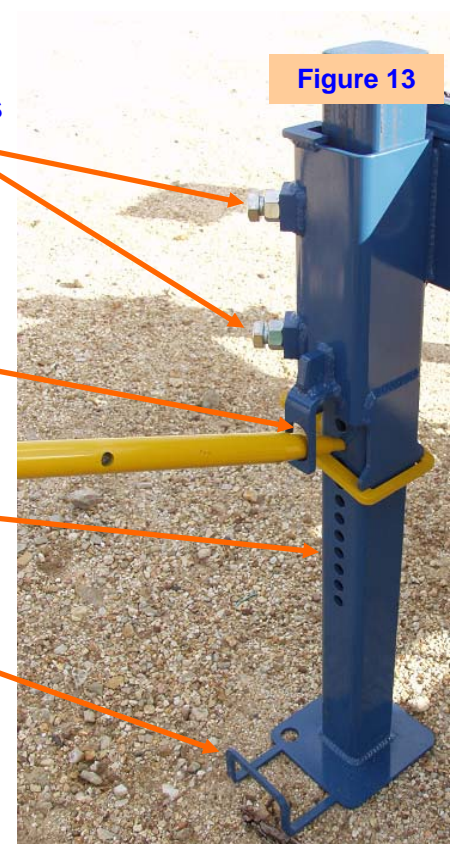


Figure 13

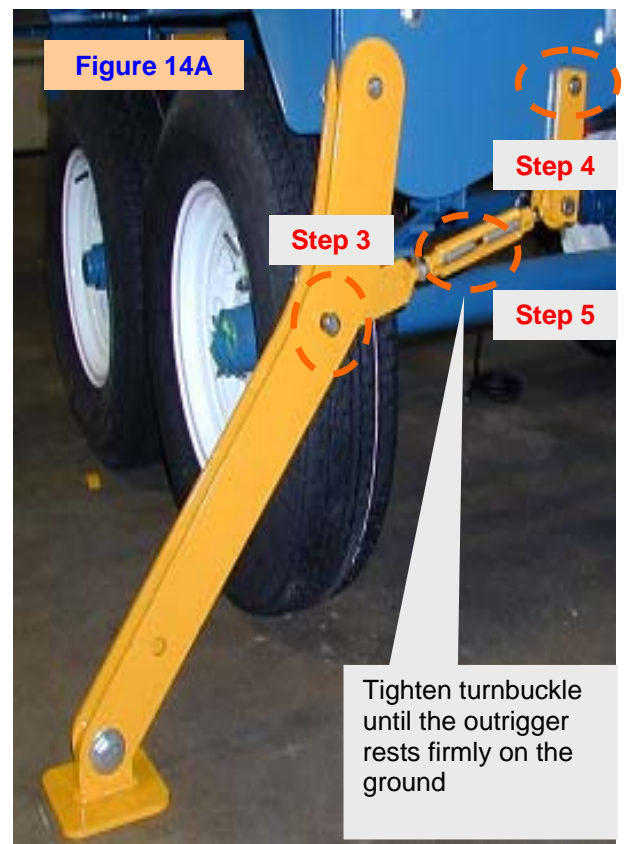
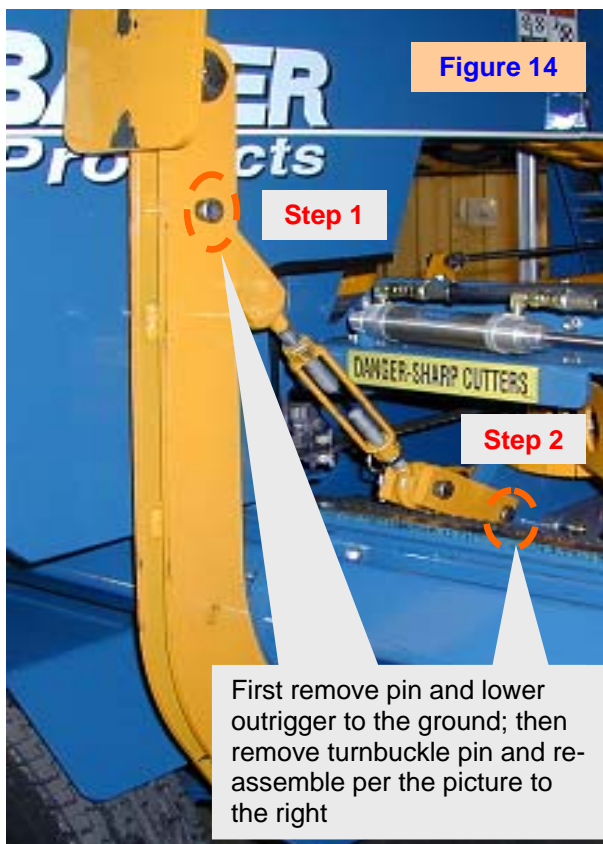
NOTE: Leg locking bolts must be tightened prior to moving the carriage head up and down the track

Machine Positioning *(continued)*

- ☐ Manually unfold the log loader arms (see **Figure 25** on page 25).
- ☐ Remove the hairpin cotter pin from the 3/4" transport pin holding the loader support outrigger at the turnbuckle and lower the outrigger to the ground (see **Figure 14** and **14A** below).
- ☐ Remove the hairpin cotter pin and 3/4" pin from the other end of the turnbuckle and then re-attach the turnbuckle to the loader support outrigger leg with the 3/4" pin.
- ☐ Attach the fork on the turnbuckle to the mill frame with the 3/4" pin.
- ☐ Tighten the turnbuckle until the loader support outrigger foot rests firmly on the ground.
- ☐ Remove the (2) head frame transport pins (see **Figure 25A** and **25B** on page 25).
- ☐ Remove the transport pin from the clamp arm.
- ☐ Remove the transport pin from the fence arms.
- ☐ Attach the sawdust discharge chute.

Note: Dust removal is recommended and this sawmill is equipped to accept a 6" pipe and a minimum of 1,300 CFM should be used.

- ☐ Inspect the mill ensuring all guards are in place and verify that the mill is safe to operate.



Leveling the Head and Frame

- ☐ In order to cut high-quality lumber and to achieve the highest degree of accuracy, the saw head must be perfectly level. To achieve this, a 3 to 4 ft bubble level is required.
- ☐ Ensure all leveling legs are firmly on the ground and all leg locking bolts and jamb nuts are tight.
- ☐ Prepare to move the head frame to the front of the mill.

Note: Refer to the *Engine Manufacturer's Operator Guide* for starting procedure.

- ☐ Move the head frame to the front of the mill, then shutdown / turn-off the engine.

Note: Refer to **page 17** for an overview of the *Operator Control Station*.

- ☐ Place a bubble level on the bunks closest to one of the leveling legs as possible.
- ☐ Bring your eyes level to the head track and look down the length of the track.
- ☐ Verify that the mill is straight for the full length of the frame.

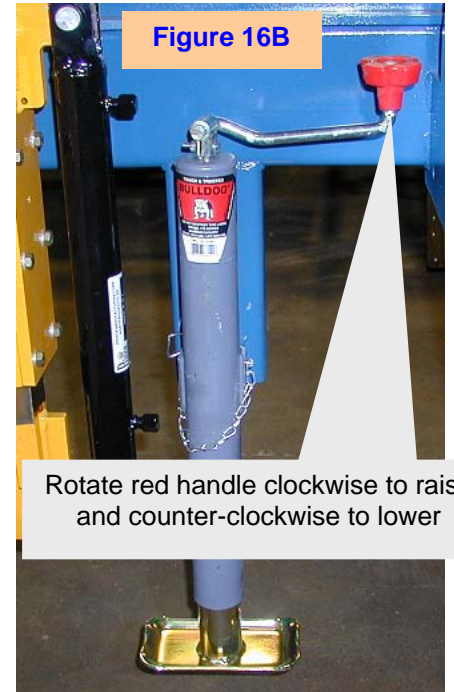
Note: It is not necessary to raise the tires off the ground during the leveling process.



Figure 15

Leveling the Head and Frame *(continued)*

- ☐ If equipped, remove the hitch jack and attach it to the center leveling attachment and use it as an additional leveling leg (see **Figure 16**, **16A** and **16B** below).



- ☐ Use the included leg-leveling jack handle to raise the appropriate leveling leg in order to bring the frame to level position (see **Figure 16C** and **16D** below).
- ☐ Tighten the (2) leveling leg locking bolts before continuing to the next leg.
- ☐ After all leveling legs have been adjusted, check all bolts for tightness and tighten the associated jamb nuts.
- ☐ Replace the leg-leveling jack handle and hairpin cotter pins.



Operator Control Station

Prior to cycling any controls, ensure the area is clear of personnel and obstructions. Make certain anyone required to work near the mill is aware that the mill is in operation.

**** It is the operator's responsibilities to ensure these safety conditions exist ****

Descriptions

1. **Clamp In/Out** - Moves the clamp in and out.
2. **Clamp Up/Down** - Raises and lowers the clamp.
3. **Front Toe Roller Up/Down** - Raises and lowers the front toe roller.
4. **Rear Toe Roller Up/Down** - Raises and lowers the rear toe roller.
5. **Log Loader Up/Down** - Raises and lowers the log loader.
6. **Head Forward/Reverse** - Locking valve that allows the head to travel forward or reverse. Valve will lock in the forward position for unassisted saw head travel. Valve will not lock in the reverse position.
7. **Turner Up/Down** - Raises or lowers the log turner.
8. **Fence Up/Down** - Raises or lowers both the fence arms.
9. **Turner Forward/Reverse** - Rotates the log turner forward or reverse.
10. **Head Saw Up/Down** - Raises and lowers saw head to desired height.
11. **Hydraulic Fluid Pressure Gauge** - Indicates hydraulic pressure when the hydraulic controls are operated.
12. **De-barker Switch** - (optional feature) Two position switch that controls the de-barker operation.
13. **Networks Reset** - (optional feature) Resets computer Networks reference after turning log or loading a new log.
14. **Networks Joystick** - (optional feature) Four-position switch, Forward = Set 1; Back = Offset; Left = Guide Out; Right = Guide In.
Note: Only guide in and out functions are used on models without Networks. See the optional Computer Networks Usage section for more information.
15. **Head Speed Control** - Hydraulic flow control that sets the forward cutting motion speed of the saw carriage. **Note:** Effective cutting speed will vary depending on type of material being sawed.
16. **All Stop** - Button designed to immediately shutdown machine operation.
17. **Throttle Cable** - Depress button in center of knob and pull cable to appropriate RPM, re: 2,800 for 38-HP Kubota diesel.

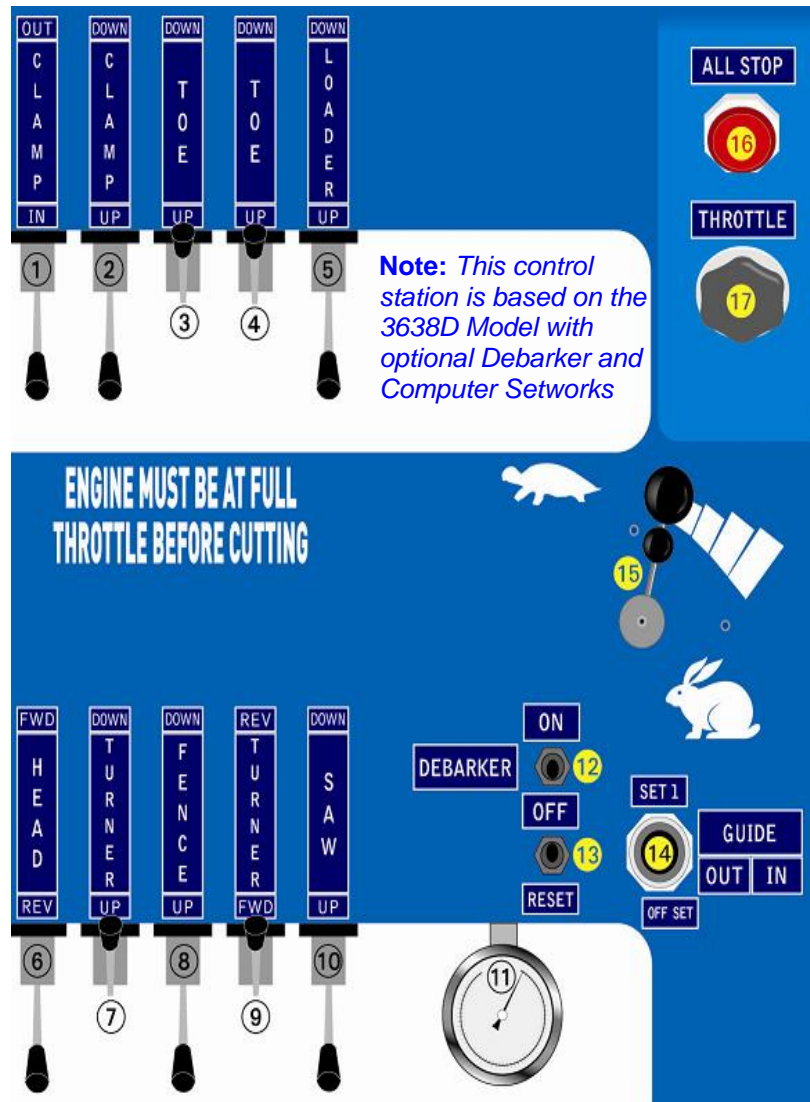


Figure 17



Setting the Head forward speed too high can result in personal injury and/or equipment damage. Always verify the head speed control valve position during daily mill inspection.

⚠ DANGER Log Loader Arms

Log loader arms should always be positioned to provide adequate support to the material being loaded. Failure to do so can cause personal injury and/or equipment damage.

Positioning The Log Loader Arms

- ☐ Ensure the head frame is positioned to the front-end of the mill.
- ☐ Ensure log loader arms and outrigger support arm are setting on the ground.
- ☐ Ensure machine power is off by removing the key from the ignition.
- ☐ Set a log in front of (*but not onto*) the log loader arms using the outrigger support as a mark to align the center of the log with.
- ☐ Using a 1 1/8" wrench loosen the 3 jamb nuts and 3 bolts on each log loader arm slider assembly, allowing the log loader arm to move easily.
- ☐ Position the arms so that the logs will be evenly distributed across each arm (see **Figure 18** below).

Note: A minimum of 12" of the log should extend past the log loader arms and the minimum distance between the arms should never be less than 42".

- ☐ Measure the spacing noted above ensuring the minimum requirements are met.
- ☐ When the desired distance is met, tighten the 3 bolts and 3 jamb nuts on each log loader arm slider assembly.
- ☐ Ensure that the end of the material closest to the saw head will clear when loaded.
- ☐ After log loader arms are properly positioned and bolts and jam nuts are tight, you are ready to load logs onto the mill.

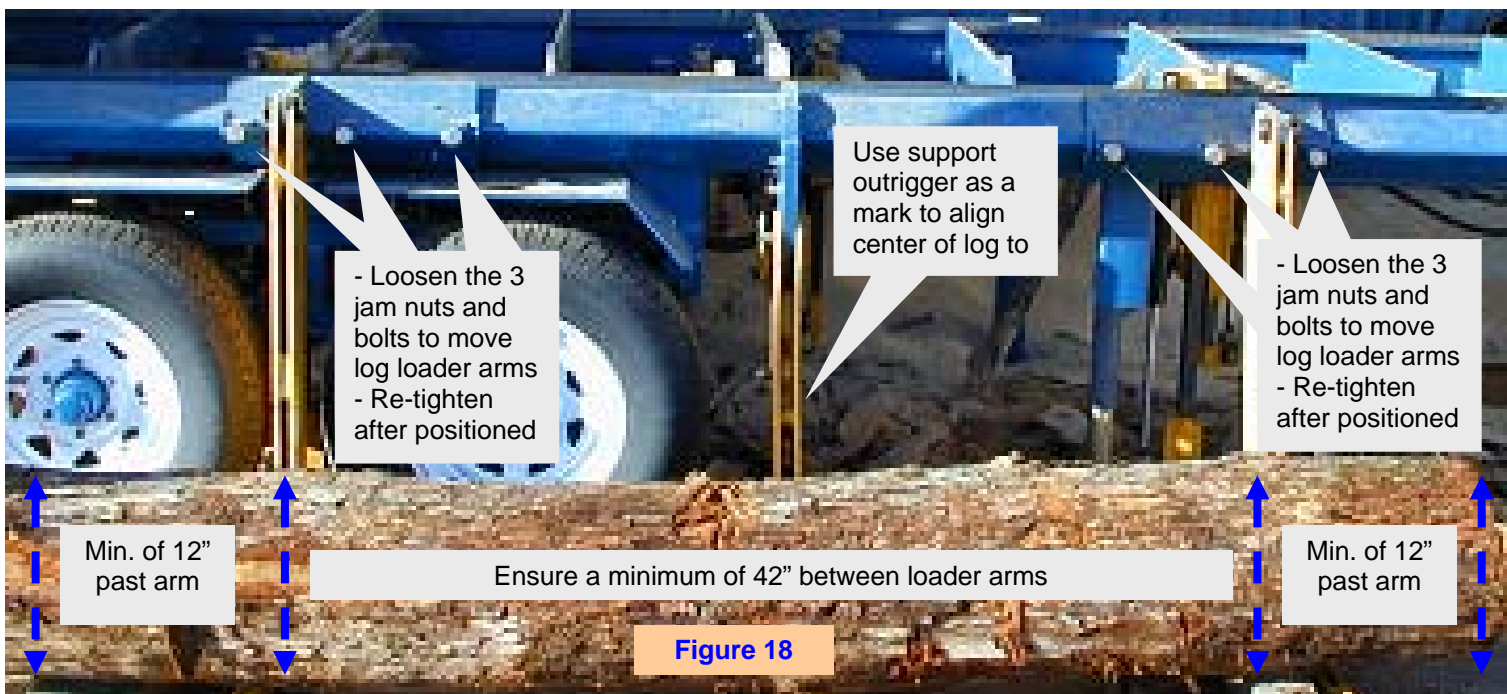


Figure 18

OPERATION

Starting The Mill

Refer to the Engine Manufacturer's Operator Guide for correct starting procedures. Once the engine is warmed up, the mill is ready to load logs and make cuts.

Loading a Log

- ☐ Raise the clamp arm all the way up, and position it fully to the left (when looking at the clamp from the control station).
- ☐ Depress throttle center button (#17) and pull throttle cable outward (see **Figure 19**) until the engine reaches 2,800 RPM (see **Figure 19A**).

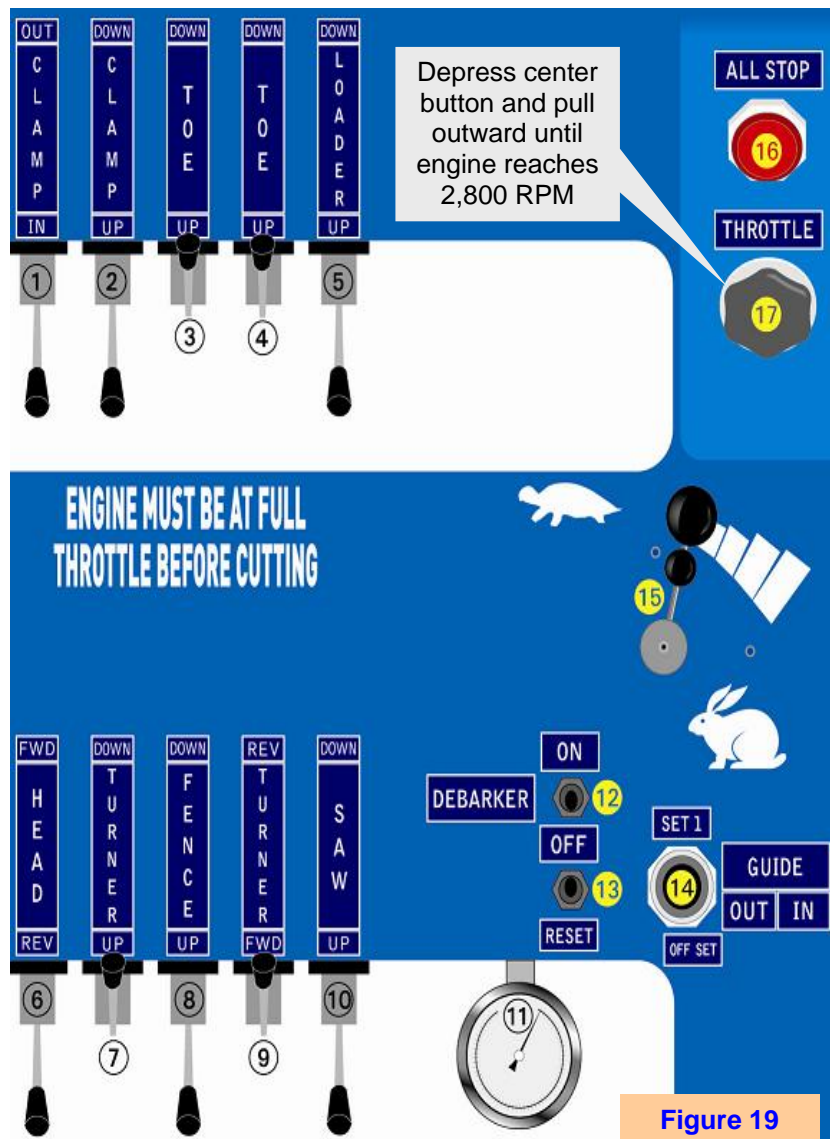


Figure 19A

Engine RPM
gauge

Figure 19

Loading a Log *(continued)*

- ☐ Ensure all fences, toe rollers, log turners, and other possible obstructions are clear.
- ☐ Ensure the log is centered on the log loader arms.
- ☐ Raise the log loader arms until the log rolls onto the mill.
- ☐ Immediately raise the fence arms all the way up to prevent log from leaving log bunks (see **Figure 20** below).
- ☐ Lower the log loader arms.
- ☐ Bring the clamp in, squaring the log against the fence arms (see **Figure 20A** below).
- ☐ You are now ready to position the log for cutting. Proceed to the next section.



Cutting A Log

- ☐ Ensure the engine is running 2,800 RPM.
- ☐ If log requires further positioning after being loaded, bring the clamp arm back a short distance away from the log.
- ☐ Use the log turner and, if needed, the toe rollers to position the log as needed.
- ☐ Position the clamp arm tight against the log.

Note: Always be aware of the position of the clamp arms; log turner, fence arms, and toe rollers as any one of these items can come in contact with the blade if improperly positioned during a cut.



- ☐ Position the clamp arm and fence arms to a height that will allow an uninterrupted cut.
- ☐ Position the saw head to the desired height.
- ☐ Ensure the head travel speed is set to "slow" before moving the carriage forward.
- ☐ Enter the wood slowly, and then increase head speed slowly, until engine speed drops approximately 100 RPM.

Note: Effective cutting speed is determined by the hardness and width of the material being cut. It is always best to start slow and increase speed as the operator's proficiency increases.

- ☐ When ready, push the Head Forward/Reverse lever fully forward.
- ☐ At the end of each cut (when the 3 yellow drag back fingers drop clear of the material), the saw head must be raised a minimum of 5/8" to allow for the blade to clear the material on head return.

Note: It is not required to drag back each board or slab after each cut, but to do so the drag back fingers must remain low enough to catch the cut board/slab while clearing the uncut portion of the log.

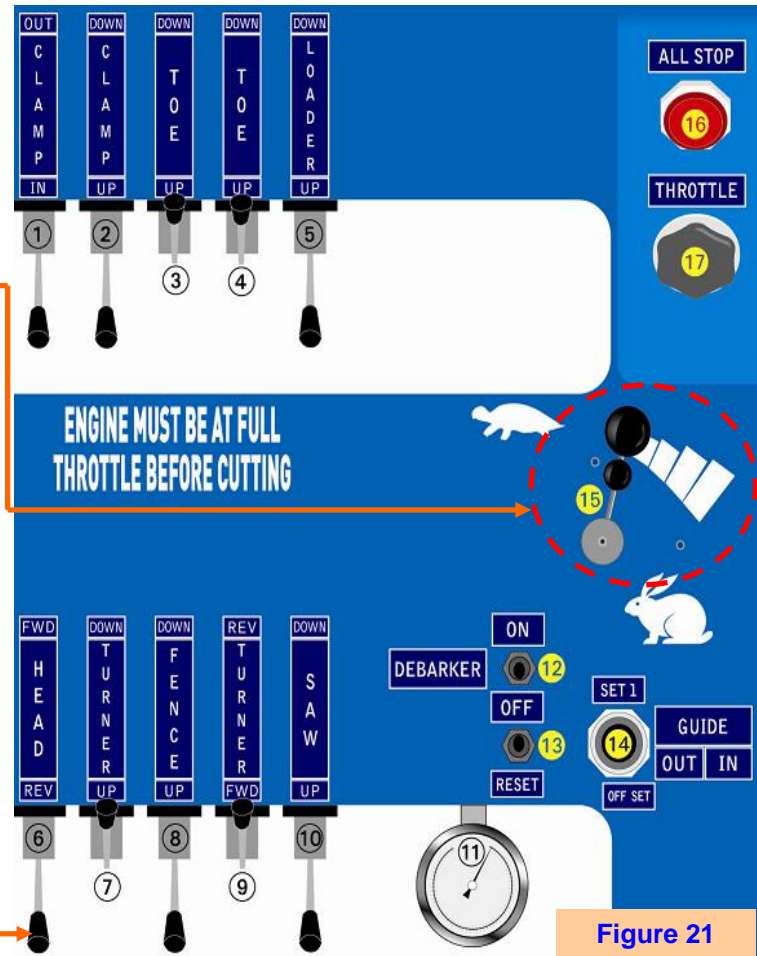


Figure 21



Changing head direction before the blade is clear of the material will result in the blade damage by being dragged out of the guides and off the wheels. This can also result in personal injury and/or other equipment damage.

Note: The blade will travel from 1 1/4" to 30" from the bunks. Always ensure that all obstructions are clear of the blade before making any cut.

Cutting A Log *(continued)*

Photos of a
customer's Baker
Portable Sawmill
sawing logs into
lumber



Note: Photo shows a 67-hp
John Deere diesel engine

Figure 22



Figure 22A

Finished Product

7" x 9" x 8'6"
Hardwood
Railroad Ties



Figure 23

4/4 Hardwood
Lumber
1 1/16" x 6" x 8'6"



Figure 23A

Securing the Mill for Transport

- ☐ All portable Band Sawmills require a 2 5/16" ball to properly fit the trailer hitch.
- ☐ Ensure tires are properly inflated to the correct pressure, as stated on the sidewall.
- ☐ The head frame should be positioned over the axels and held stationary by inserting the transport pins in the head locking slots followed by the hairpin cotter pins (see **Figure 25A** and **25B** on the next page).
- ☐ Ensure all leveling legs are raised up and all bolts and jamb nuts are tight.
- ☐ Ensure all fences, clamp arms, and toe rollers are raised and that the fence arms and clamp arms have transport pins and hairpin cotter pins in place.
- ☐ Ensure the log loader arms are folded over and the end of each rest securely and evenly (*centered*) on a log bunk (see **Figure 25** on the next page).
- ☐ Ensure that no hydraulic hoses or electrical wires are hanging loose under the mill.
- ☐ Ensure that the leg-leveling jack handle is in its mounts with hairpin cotter pins in place (see **Figure 16C**, page 16).
- ☐ Remove and secure the dust discharge chute.
- ☐ Ensure that the trailer hitch is properly fastened, the two safety chains and the brake activation pull cable is securely fastened to the towing vehicle.
- ☐ Rotate trailer jack to the horizontal position and secure in place with the locking pin.
- ☐ Verify that the electric brakes, brake lights and turn signals work properly prior to towing.

NOTE: Baker Products will not be held responsible for any injury or damage resulting from failure to follow all safety precautions associated with vehicle towing. It is the customer's responsibility to ensure that the mill meets all laws associated with towed equipment in their respective state or local. Insurance coverage is not provided by the manufacturer, but should be covered by the tow vehicle being used for transport.

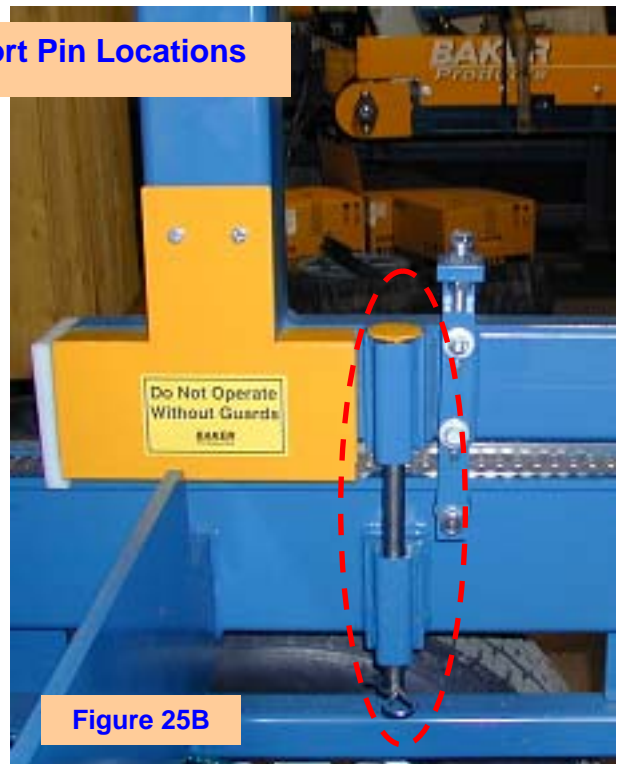
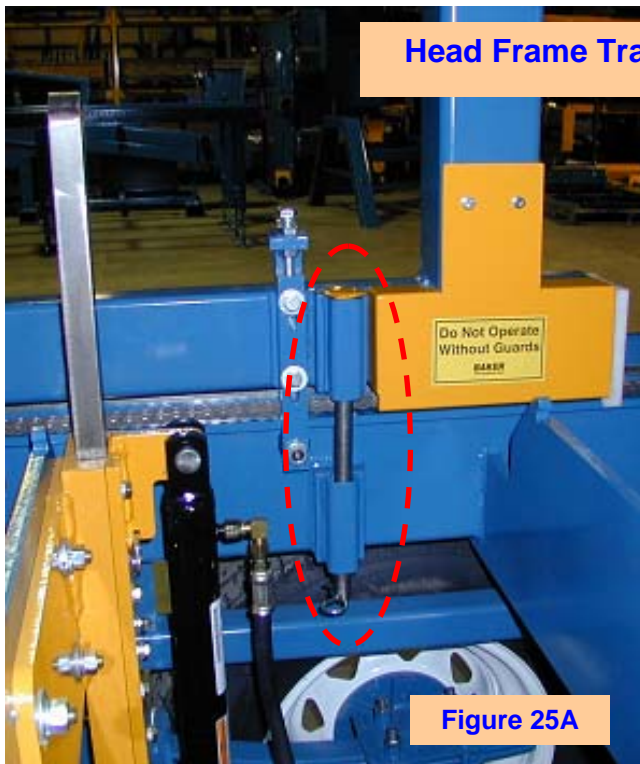


Securing the Mill for Transport *(continued)*

Ensure log loader arms are folded over and centered on a log bunk



Head Frame Transport Pin Locations





MAINTENANCE

General Clean Up



Note: When possible, follow proper Lockout / Tagout procedures prior to cleaning any part of the machine.

- ☐ For diesel powered sawmills, ensure machine power is off by removing the key from the ignition.
- ☐ On a daily basis use an air-hose to blow-off the dust and wood chips that accumulate in, on and around the machine.
- ☐ The machine operator or clean-up person is closer to dangerous operating mechanisms of the machine during clean up than during production – extra care should be taken.
- ☐ Do NOT clean with flammable or combustible materials.
- ☐ Follow applicable codes and standards with regards to:
 - Ventilation and monitoring of work area for excessive accumulation of hazardous vapors
 - Wearing personal protective equipment for handling materials
 - Using proper procedure for disposing of all waste materials

Inspection and Preventative Maintenance Checklist

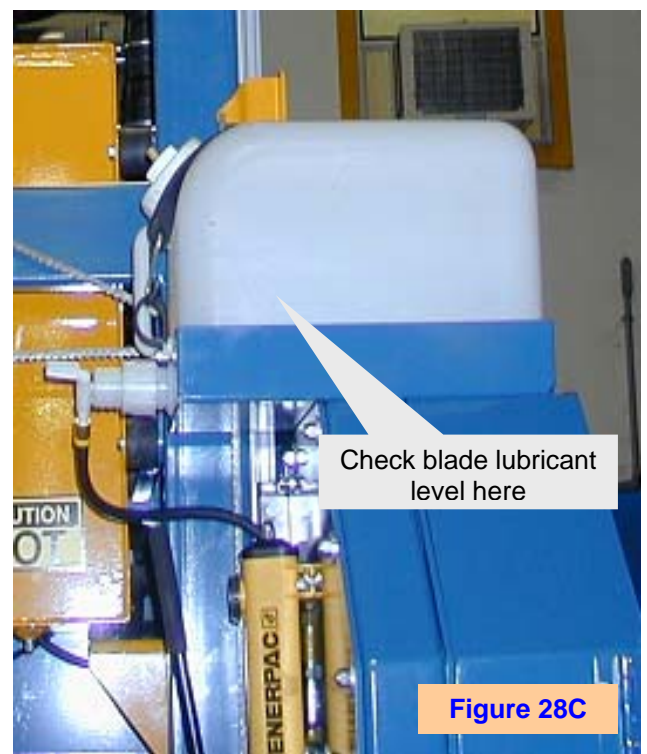
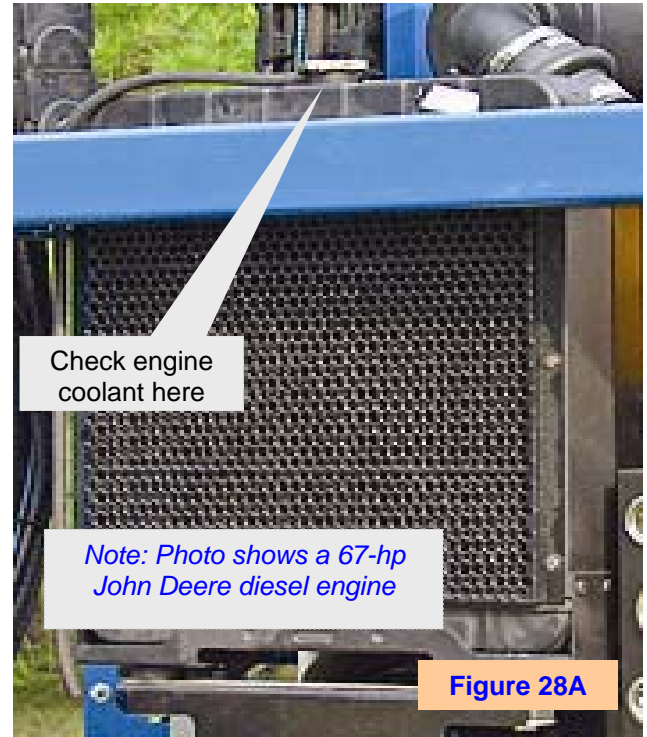
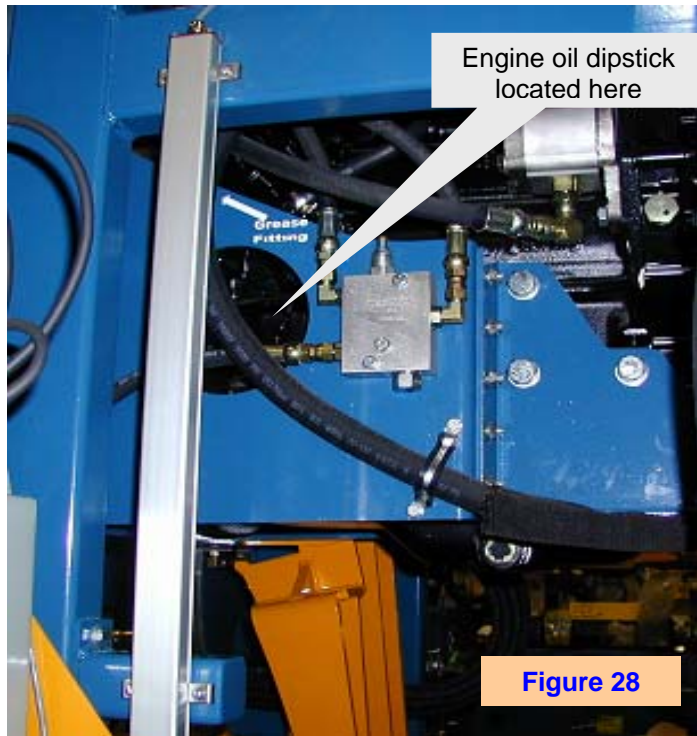
Note: For a detailed schedule of maintenance on the Kubota Diesel Engine, please refer to the Engine Manufacturer's Operator Guide.

Frequency	Recommendation
Daily	<input type="checkbox"/> Complete a visual inspection of the mill before the beginning of each production day and look for loose, worn, broken or defective parts.
Daily	<input type="checkbox"/> Check engine oil, coolant, hydraulic fluid, and blade lubricant levels. We recommend Dexron/Mercon III transmission fluid for hydraulic fluid.
Twice Daily	<input type="checkbox"/> Grease the clamp arm up/down & in/out; fence arm up/down; toe roller up/down and log loader pivot point. We recommend JT-6 grease .
Daily	<input type="checkbox"/> Grease the linear bearings on guide arm and head raise/lower rail. We recommend JT-6 grease (no more than 1 pump for each) .
Daily	<input type="checkbox"/> Lubricate the log turner chain. We recommend Zep 2000 or heavy oil.
	<input type="checkbox"/> Lubricate ball screws (1 per side) with spray grease. We recommend Zep 2000 .
Daily	<input type="checkbox"/> Clean the crown on the idler and pull wheels using an air hose, brush or by wiping them down, freeing them of dust and debris.
Daily	<input type="checkbox"/> Clean & inspect the blade guides. Excessively worn guides should be replaced.
Daily	<input type="checkbox"/> Check band blade tension ensuring proper pressure for the size of blade in use. → 1 1/4" blade -- 1,400 PSI (see Figure 32 on page 32) → 1 1/2" blade -- 1,700 PSI (see Figure 32 on page 32) → 2" blade -- 1,900 PSI (see Figure 32 on page 32)
Daily	<input type="checkbox"/> Check band blade tracking. A 1-1/4" blade should be flush with the back of the wheels; a 1-1/2" or 2" blade should be centered on the wheels with the gullet flush or no more than 1/32" past the front face of the wheels.
Daily	<input type="checkbox"/> Check power band belt and ensure tension is "taut" with no more than 1/2" of deflection in the belt.
Daily	<input type="checkbox"/> Check measurement dial chain and ensure tension is "taut" with no more than a 1/4" of play in the tension of the chain.
Daily	<input type="checkbox"/> Lubricate the carriage drive chain. We recommend Zep 2000 or heavy oil.
Daily	<input type="checkbox"/> Clean carriage wheel rails using an air hose or brush.
Weekly (Approx. 40 hrs)	<input type="checkbox"/> Check N11 nut on the idler and pull wheel for tightness. Use spanner wrench bolted to head frame under the measurement wheel to tighten if required.
Weekly	<input type="checkbox"/> Grease the clutch bearing after 1 hour of operation to ensure the bearing is warm before greasing. We recommend JT-6 grease (no more than 5 pumps) .
Weekly	<input type="checkbox"/> Check setscrews on all bearings for tightness.
Weekly	<input type="checkbox"/> Check bearings on the idler and pull wheels for wear (signs of wear include excessive heat, squeaking sound or looseness).
Weekly	<input type="checkbox"/> Grease idler wheel tension slide bearing. We recommend JT-6 grease (no more than 5 pumps) .
Every 3 months (Approx 480 hrs)	<input type="checkbox"/> Grease forward/reverse shaft; raise/lower shaft, measurement dial spindle, toe roller and log turner bearings . We recommend JT-6 grease (no more than 5 pumps) .
Every 2 years (2,000 - 3,000 hrs)	<input type="checkbox"/> Have idler and pull wheel crowned.

Inspection and Preventative Maintenance Part Locations

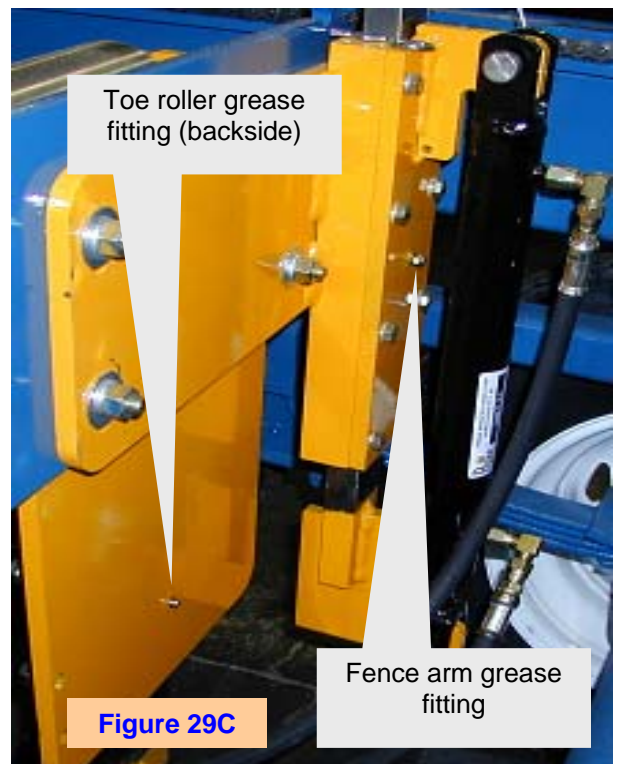
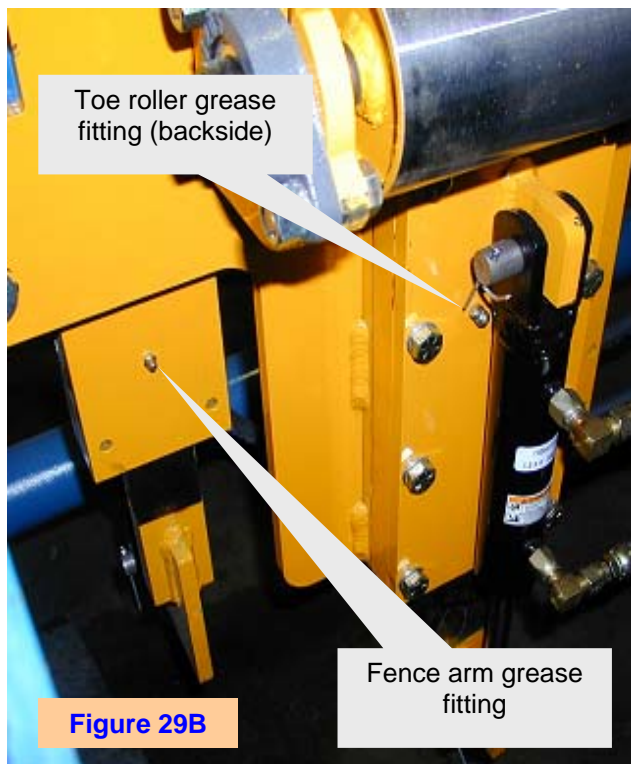
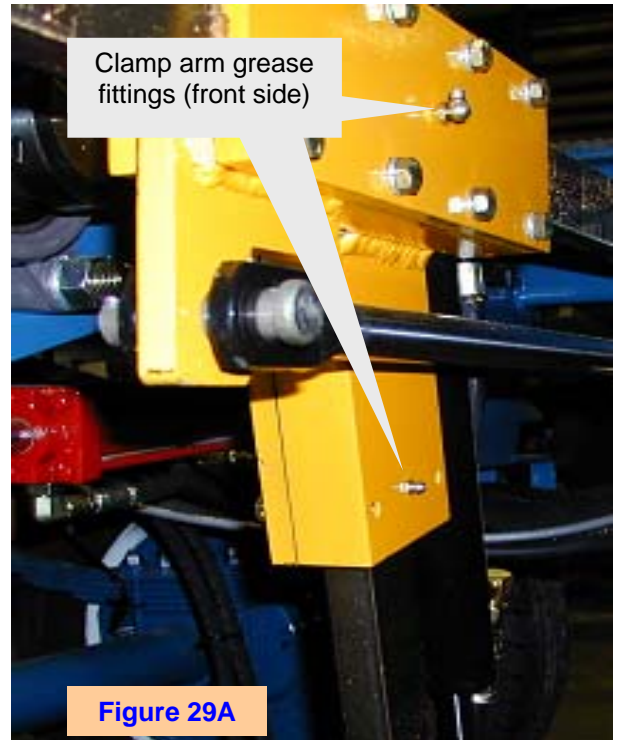
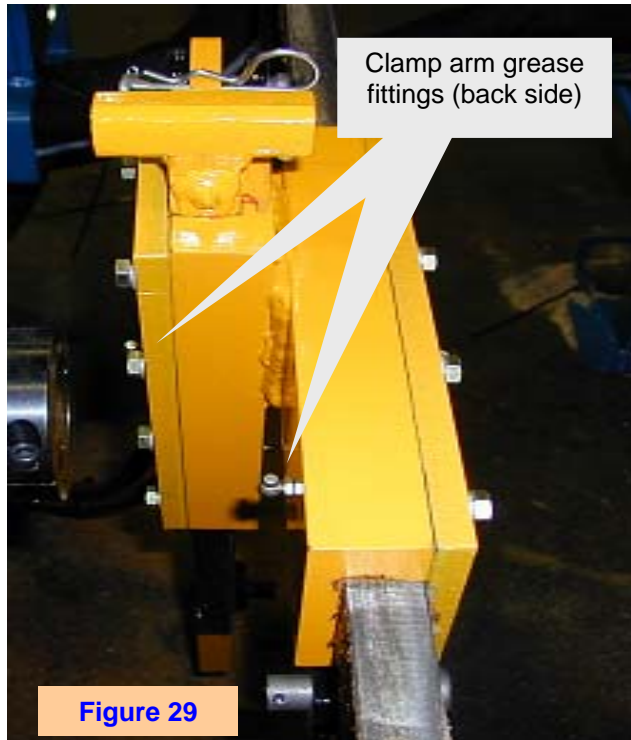
Inspection and Maintenance:

- ☐ **DAILY** - Check engine oil, coolant, hydraulic fluid, and blade lubricant levels. We recommend **Dexron/Mercon III transmission fluid** for hydraulic fluid.



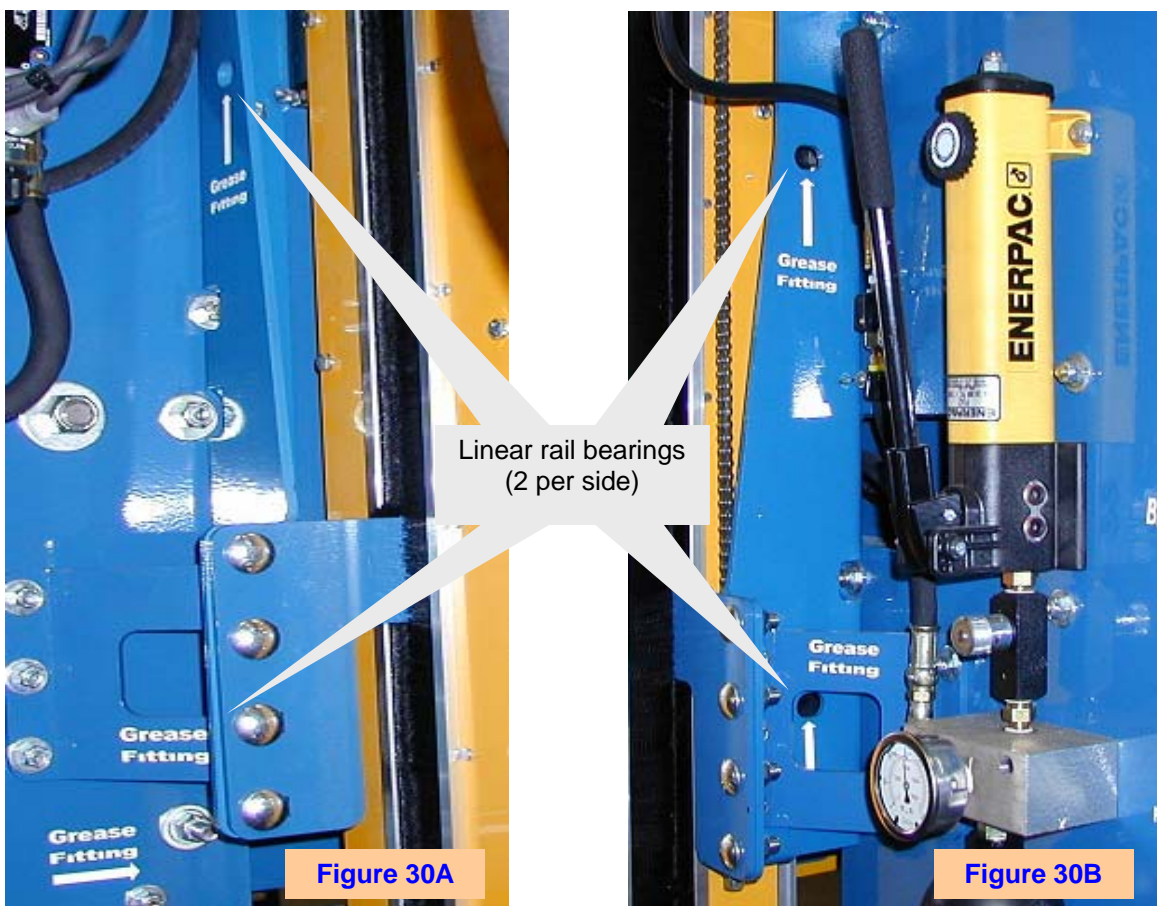
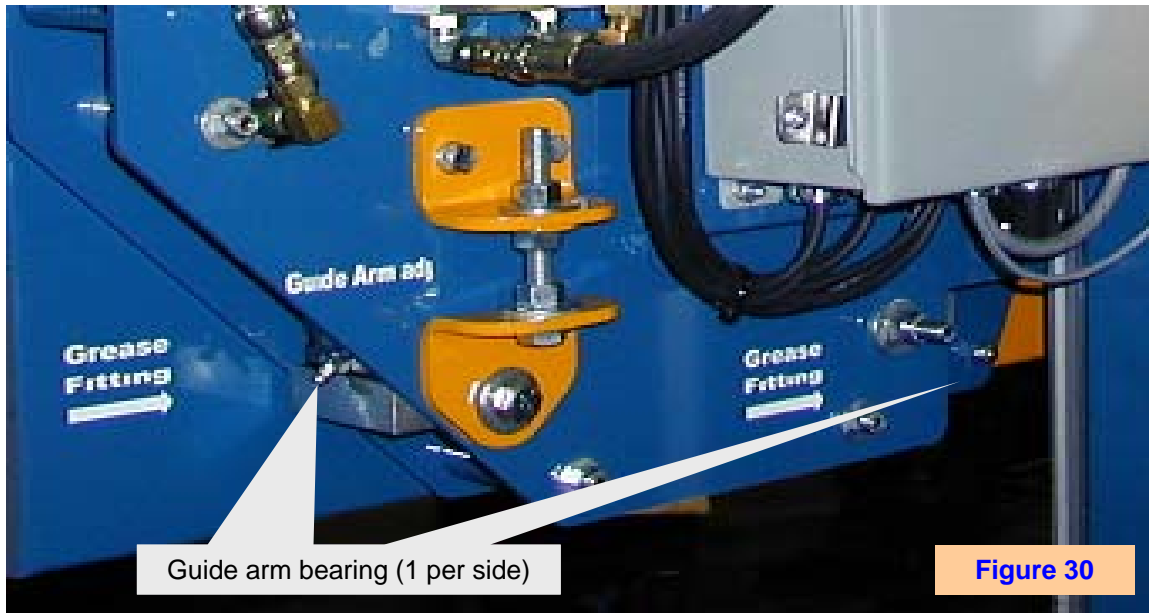
Inspection and Maintenance: *(continued)*

- ❑ **TWICE DAILY** - Grease the clamp arm up/down & in/out; fence arm up/down; toe roller up/down and log loader pivot point. We recommend **JT-6 grease**.



Inspection and Maintenance: *(continued)*

- **DAILY** - Grease the linear bearings on guide arm and head raise/lower rail. We recommend JT-6 grease (*no more than 1 pump for each*).



Inspection and Maintenance: *(continued)*

- ❑ **DAILY** - Lubricate ball screws (1 per side) with spray grease. We recommend **Zep 2000**.

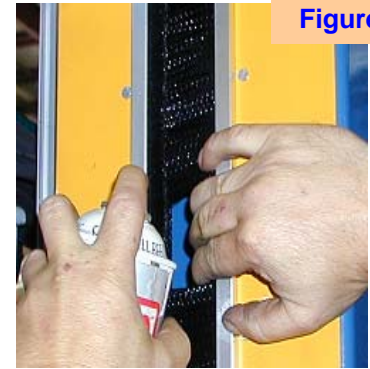


Figure 31

- ❑ **DAILY** - Lubricate the log turner chain. We recommend **Zep 2000** or heavy oil.

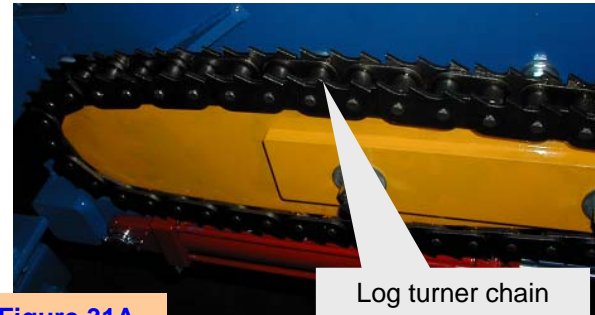


Figure 31A

Log turner chain

- ❑ **DAILY** - Clean the crown on the idler and pull wheels using an air hose, brush or by wiping them down, freeing them of dust and debris.



Figure 31B

Idler wheel crown

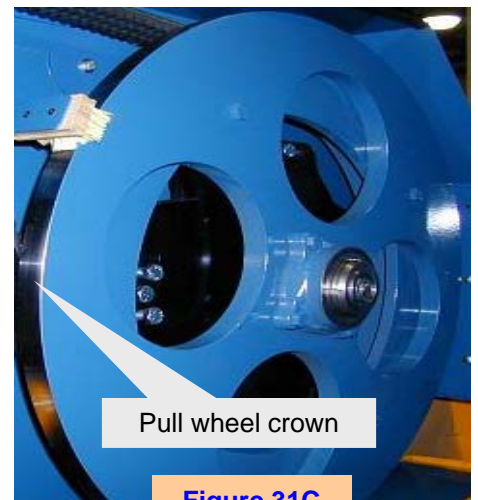


Figure 31C

Pull wheel crown

- ❑ **DAILY** - Clean and inspect the blade guides. Worn guides should be replaced before use.

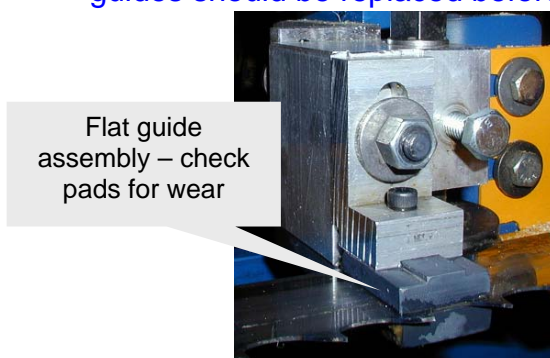


Figure 31D

Flat guide assembly – check pads for wear

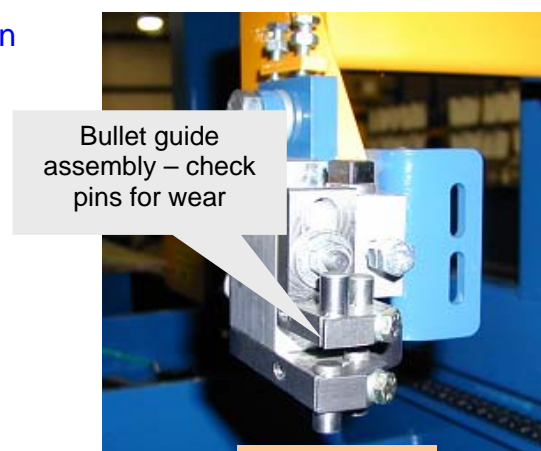


Figure 31E

Bullet guide assembly – check pins for wear

Inspection and Maintenance: *(continued)*

- ❑ **DAILY** - Check blade tension ensuring proper pressure for the size of blade in use.

BLADE SIZE AND REQUIRED TENSION

- **1-1/4" Blade Tension** – 1,400 PSI
- **1-1/2" Blade Tension** – 1,700 PSI
- **2" Blade Tension** – 1,900 PSI

Note: 2" blades require a wider pull and idler wheel

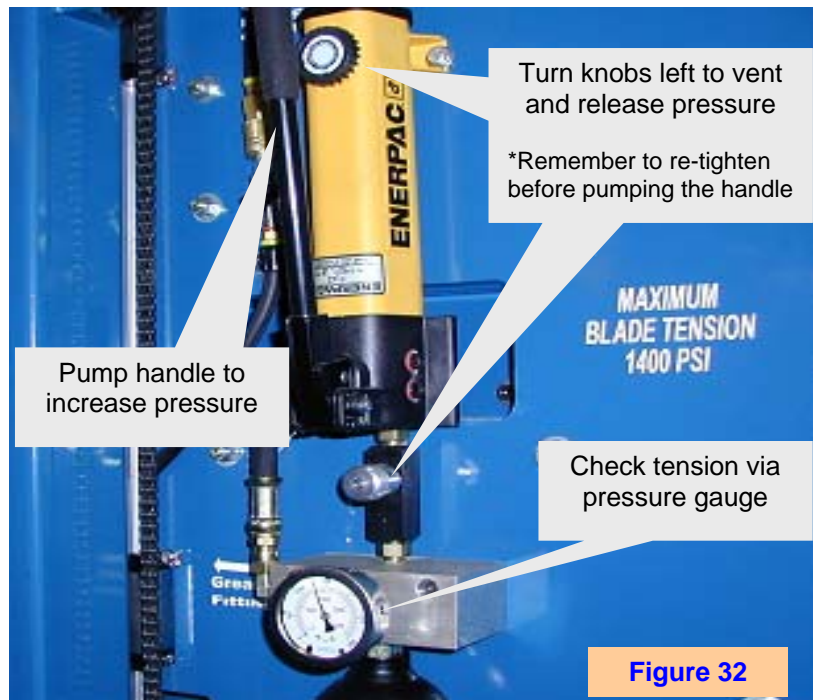


Figure 32

- ❑ **DAILY** - Check band blade tracking. A 1-1/4" blade should be flush with the back of the wheels; a 1-1/2" or 2" blade should be centered on the wheels with the gullet flush or no more than 1/32" past the front face of the wheels.



Figure 32A

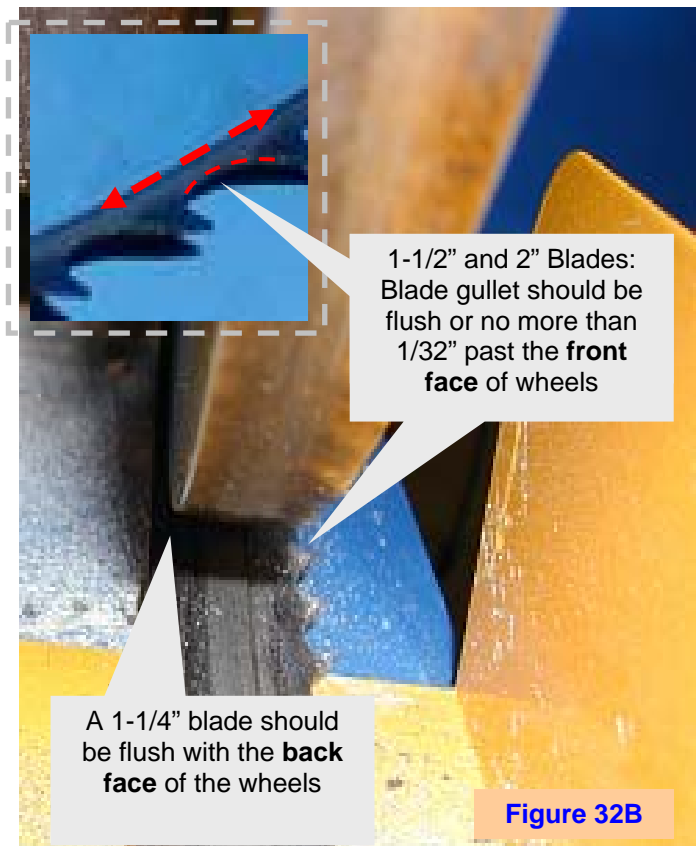
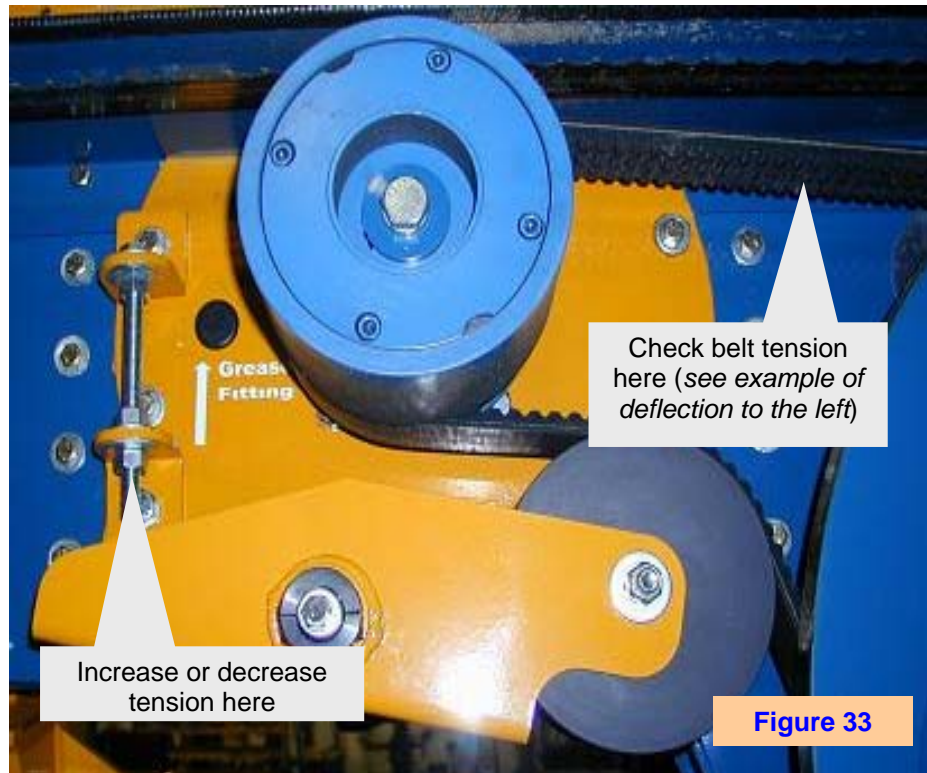
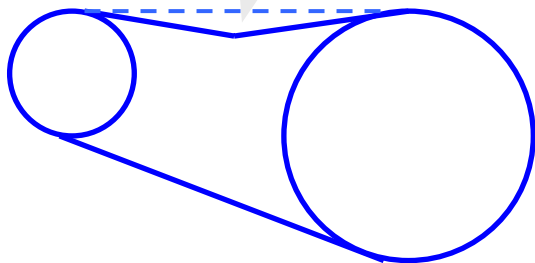


Figure 32B

Inspection and Maintenance: *(continued)*

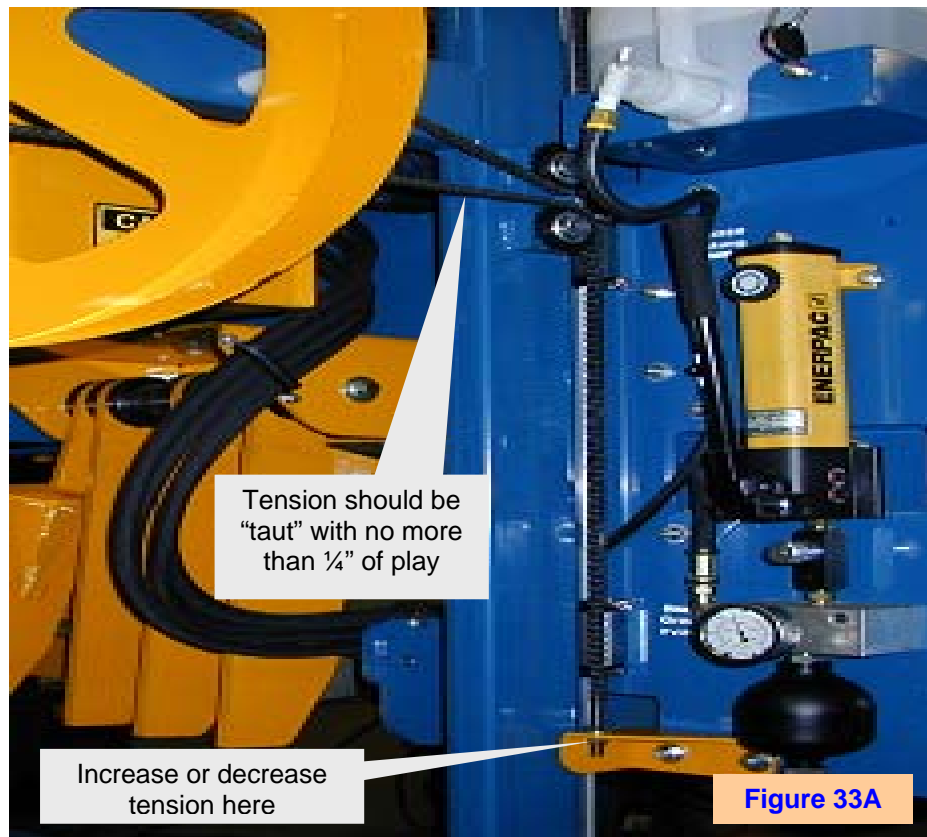
- ❑ **DAILY** - Check power band belt and ensure tension is "taut" with no more than 1/2" of deflection in the belt.

Belt tension should be "taut" with no more than 1/2" of deflection



- ❑ **DAILY** - Check measurement dial chain and ensure tension is "taut" with no more than a 1/4" of play in the tension of the chain.

Note: If chain tension is adjusted, re-calibration of the measurement dial will be required.



Inspection and Maintenance: *(continued)*

- ❑ **WEEKLY** - Check the N11 nut (**Figures 34 and 34B**) that holds the idler and pull wheels onto the spindle for tightness. Use the spanner wrench (**Figure 34A**) bolted to the head frame under the measurement dial to tighten if required.



Figure 34



Figure 34A

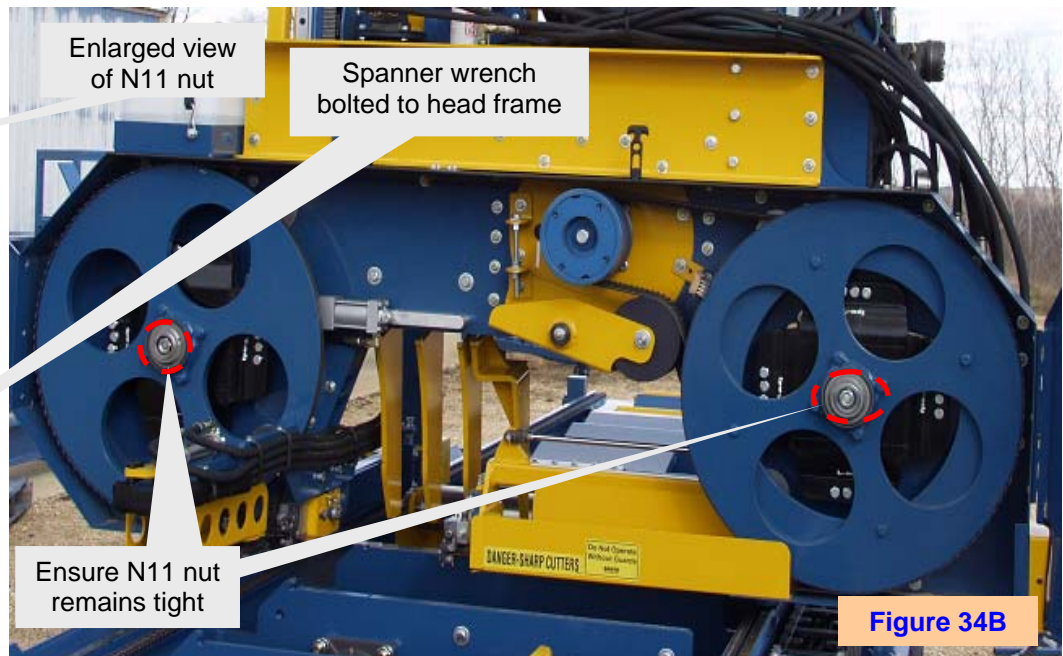
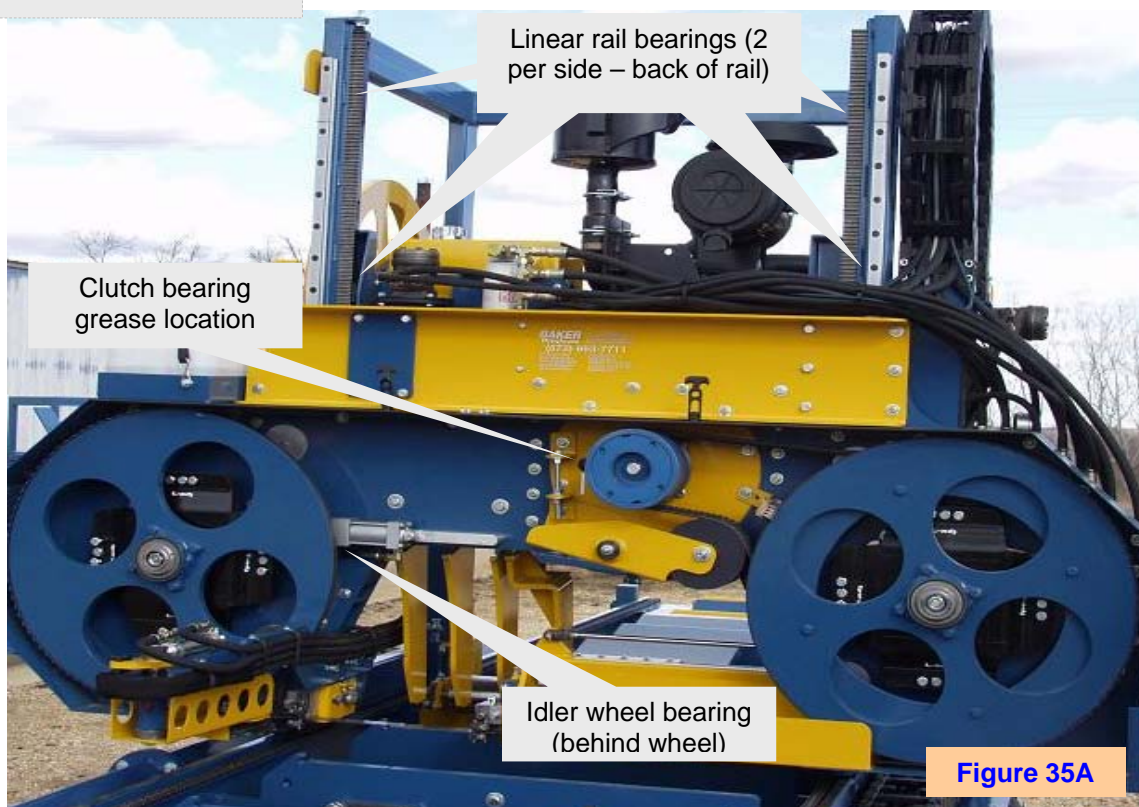
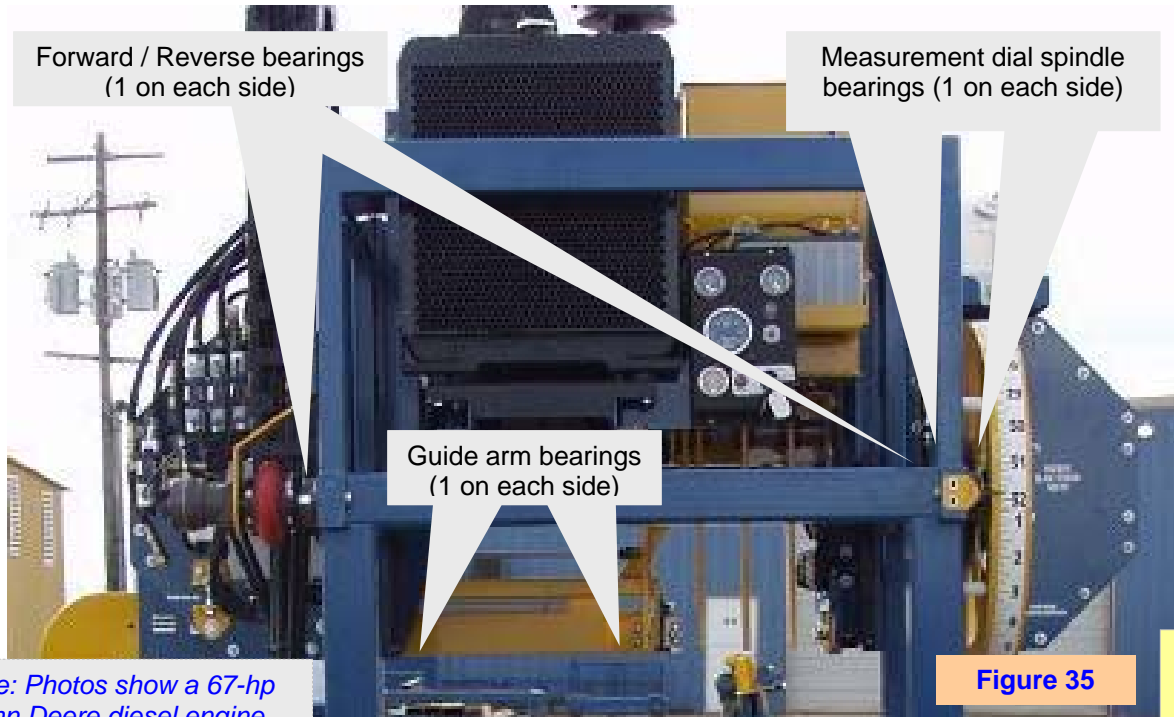


Figure 34B

Note: *Spanner wrench may also be blue in color*

Inspection and Maintenance: *(continued)*

Head/Carriage bearing locations with detailed views on the subsequent pages



Inspection and Maintenance: *(continued)*

- **WEEKLY** – Grease the clutch bearing after 1 hour of operation to ensure the bearing is warm before greasing. We recommend **JT-6** grease (***no more than 5 pumps***).

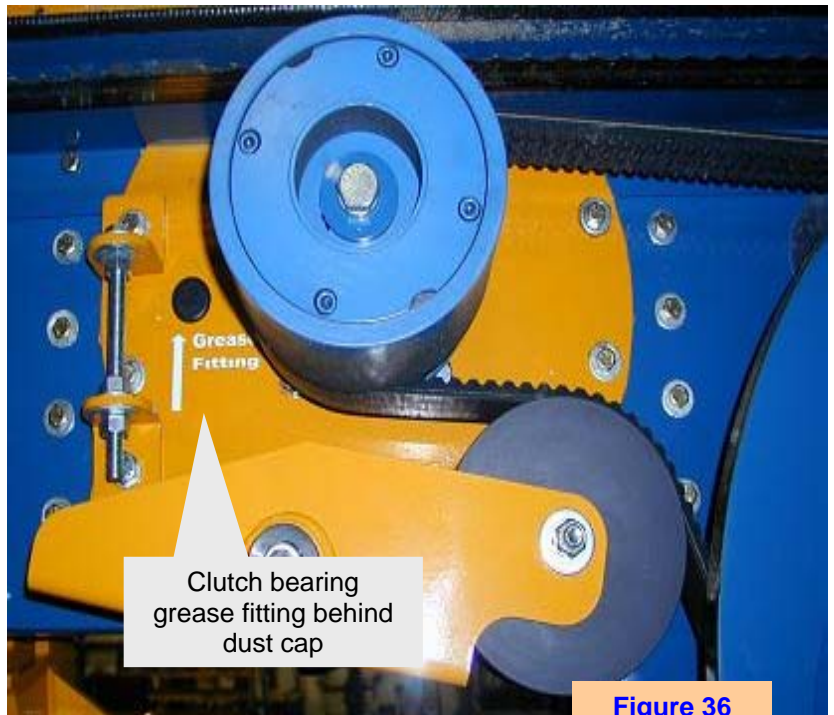


Figure 36

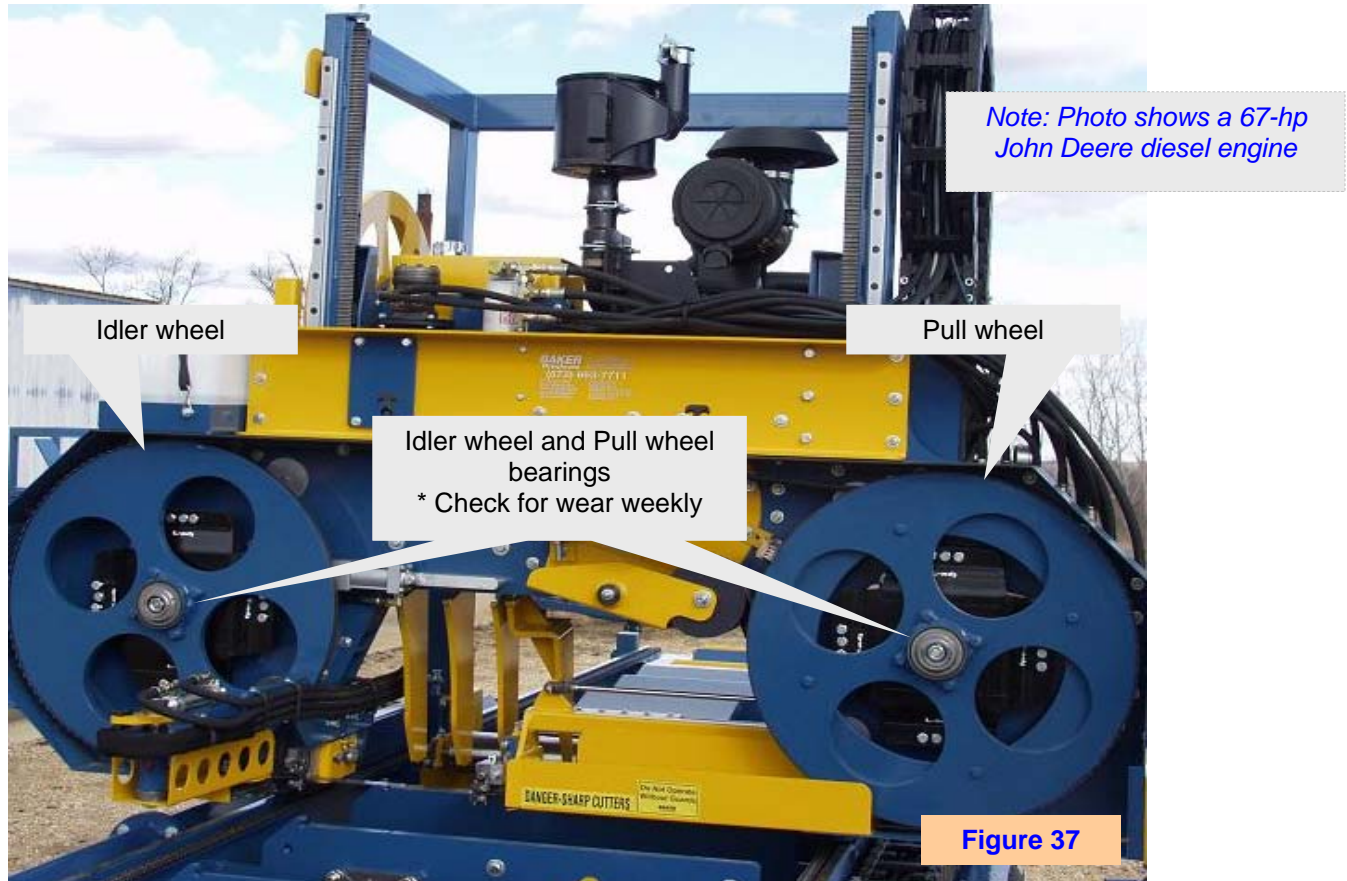
- **WEEKLY** - Check setscrews on all bearings for tightness.



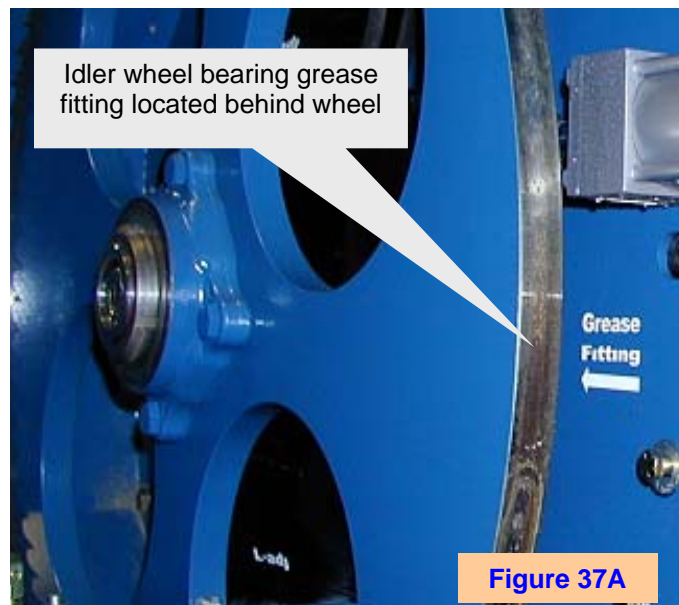
Figure 36A

Inspection and Maintenance: *(continued)*

- ❑ **WEEKLY** - Check bearings on the idler and pull wheels for wear (signs of wear include excessive heat, squeaking sound or looseness).



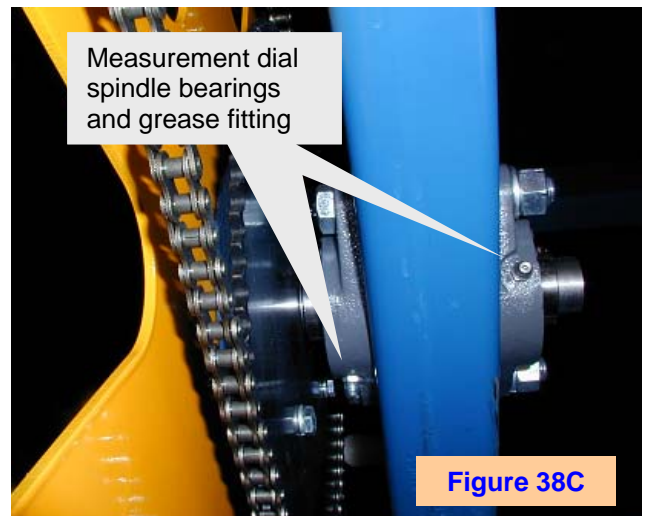
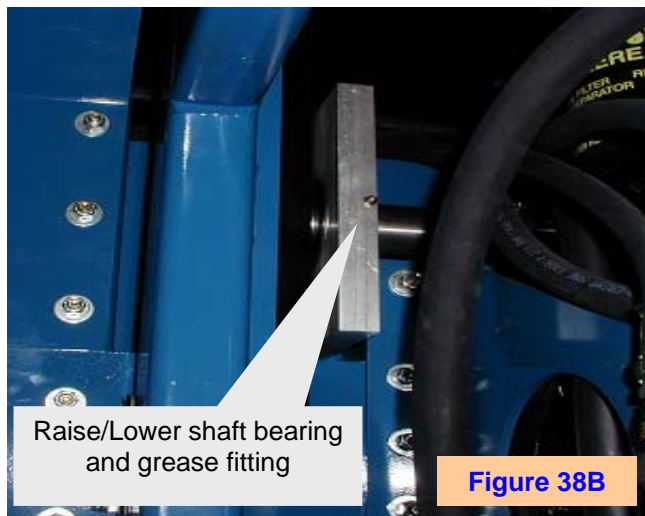
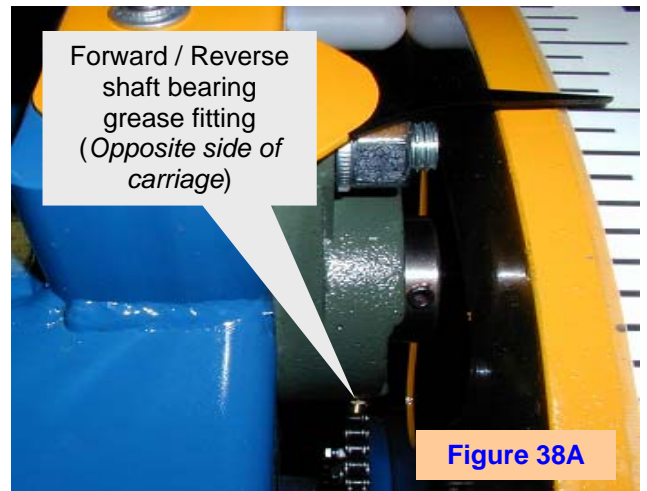
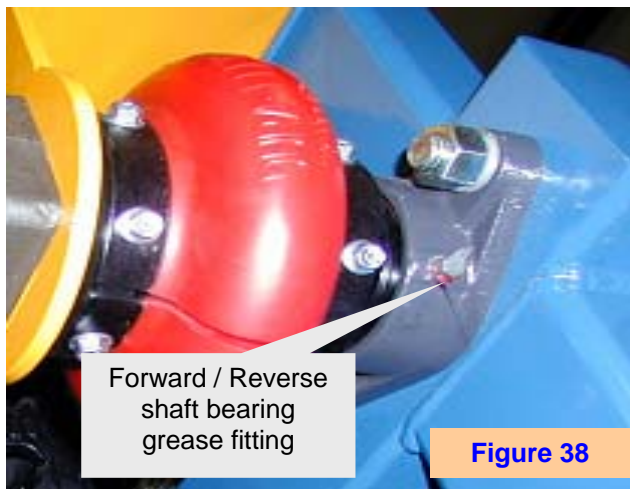
- ❑ **WEEKLY** - Grease idler wheel tension slide bearing. We recommend **JT-6** grease (**no more than 5 pumps**).



Inspection and Maintenance: *(continued)*

Every 3 Months: *(Approx. 480 hrs of Operation)*

- Grease forward/reverse shaft (**Figure 38** and **38A**); raise/lower shaft (**Figure 38B**); measurement dial spindle (**Figure 38C**); toe roller (**Figure 39**); and log turner (**Figure 39A**) **bearings**. We recommend **JT-6** grease (**no more than 5 pumps**).

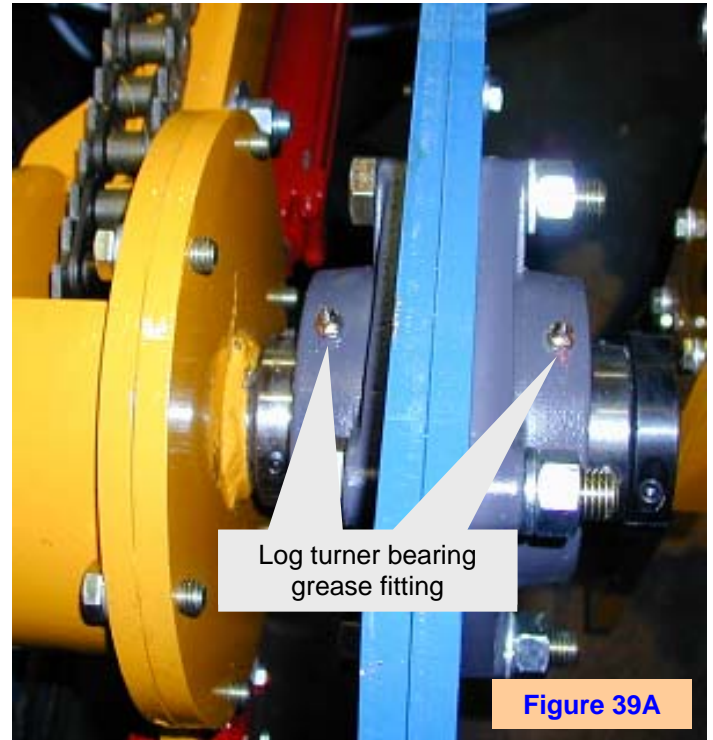
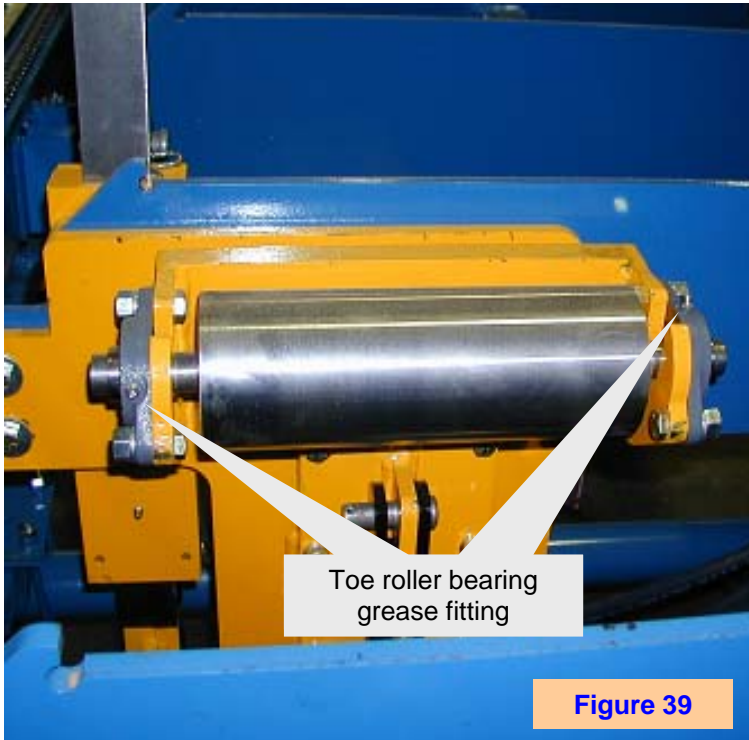


(Picture of toe roller and log turner bearings on next page)

Inspection and Maintenance: *(continued)*

Every 3 Months: *(Approx. 480 hrs of Operation)*

- ☐ Grease forward/reverse shaft; raise/lower shaft; measurement dial spindle; toe roller (Figure 39) and log turner (Figure 39A) **bearings**. We recommend JT-6 grease (***no more than 5 pumps***).



(Picture of forward/reverse shaft, raise/lower shaft and measurement dial spindle bearings on previous page)

Inspection and Maintenance: *(continued)*

Every 2 Years: *(Approx. 2,000 – 3,000 hours operation time)*

- ☐ Have idler and pull wheel crowned.



NOTE: *An improper or worn crown on the idler and pull wheels will not let the blade track properly and allows the blade to float in and out. One of the first indications of this is having more blades requiring tracking or not staying properly tracked between blade changes.*



Bearing Lubrication Information

“Ensure all safety precautions are followed whenever any maintenance or repair is performed on your sawmill. Ensure all proper lockout and tag out procedures are observed. Failure to follow prescribed safety precautions can result in serious injury and damage to equipment. As with any lock out procedure the person actually performing the maintenance must keep the lockout key in possession at all times.”

The following list is a recommended lubrication schedule for bearings operating under different environmental conditions:

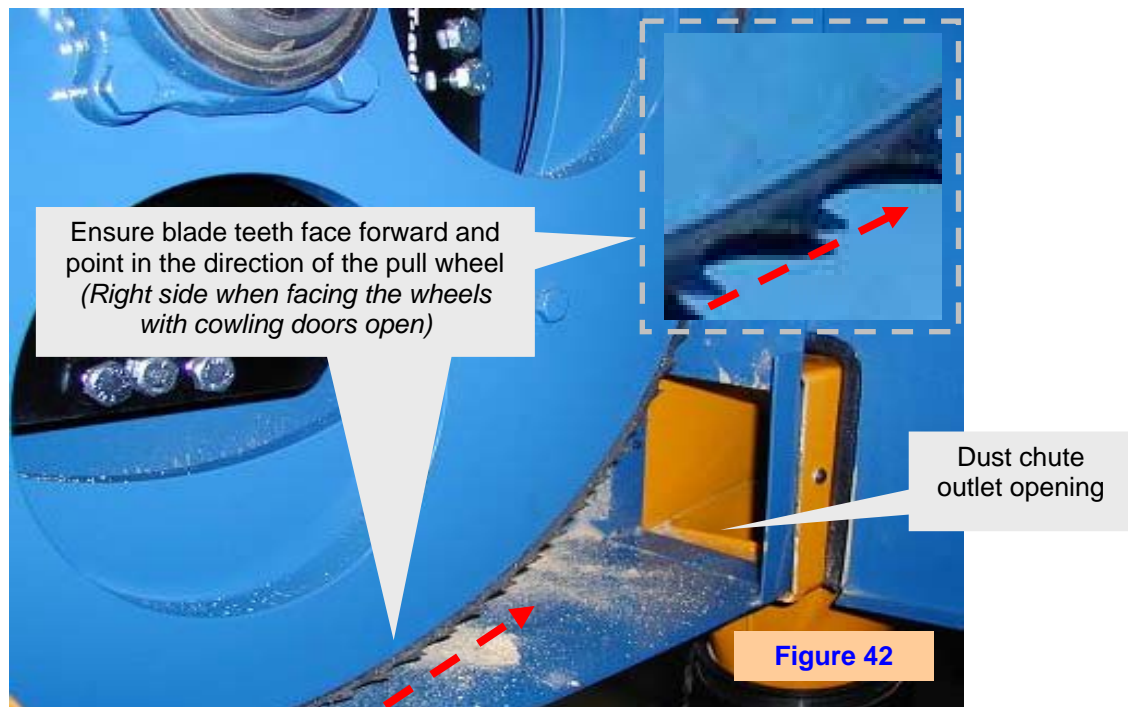
SPEED	TEMPERATURE	CLEANLINESS	INTERVALS
100 RPM *	Up to 120 degrees F	Clean	6 – 12 months
500 RPM	Up to 150 degrees F	Clean	2 – 6 months
1000 RPM	Up to 210 degrees F	Clean	2 weeks – 2 months
1500 RPM	Over 210-250 degrees F	Clean	Weekly
1500 – 2000 RPM	Up to 150 degrees F	Dirty	1 week – 1 month
	Over 150 – 250 degrees F	Dirty	Daily – 2 weeks
	Any Temp – 250 degrees F	Very Dirty	Daily – 2 weeks
	Any Temp – 250 degrees F	Extreme Conditions	Daily – 2 weeks

*** Drive bearing on saw carriage**



Changing Blades (Removal and Installation)

- ☐ Ensure machine power is off by removing the key from the ignition.
- ☐ Release blade tension by venting the hydraulic pressure (see **Figure 32** on page 32).
- ☐ Open the left and right cowling doors.
- ☐ Pull down on the blade at the top, between the wheels, pulling the idler wheel toward the center. **Note:** *If the blade was broken, manually push the idler wheel back toward the center of the cowling.*
- ☐ When the blade is loose enough to be removed, pull it off the wheels and out of the guides.
- ☐ Put the new blade over the wheels and through the guides with the teeth facing forward and pointing toward the pull wheel, or in the direction of the dust chute.
- ☐ Align blade to the wheels. (**See page 32 for illustrations and instruction**)
Note: *If you are installing a 1-1/4" blade, the back of the blade should be flush with the back of the wheels; if you are installing a 1-1/2" or 2" blade it should be centered on the wheels with the gullet flush or no more than 1/32" past the front face of the wheels.*
- ☐ Set blade tension to the required pressure for the size of blade installed. (**See page 32 for illustrations and instruction**)
 - 1 1/4" blade -- 1,400 PSI
 - 1 1/2" blade – 1,700 PSI
 - 2" blade – 1,900 PSI **Note:** *2" blades require a wider pull and idler wheel*
- ☐ Manually rotate the wheels counter-clockwise to ensure new blade is tracking properly.
- ☐ Close the left and right cowling doors.
- ☐ If equipped with de-barker option, replace the de-barker locking pin and cotter pin.
- ☒ You are now ready to begin cutting material.





Blade Tracking

Note: The blade tracking is set at the factory prior to shipment, but it may periodically have to be reset. Most band blades will vary on how they track due to the blade material.

- **1-1/4" Blades** -- should be flush with the back edge of the wheel – or – the blade gullet flush with the front face of the wheel.
- **1-1/2" and 2" Blades** -- should be centered on the wheels with the gullet flush or no more than 1/32" past the front face of the wheels.

- ☐ If the blade is tracking out just a little after running for a few minutes, don't be alarmed; most blades do this as they self-adjust to the contour of the wheels.
- ☐ If the blade is running out or in more than 1/32" you should try three or more blades or another box of blades before making any tracking adjustments. This will help you determine whether it's the blade(s) or something else that is affecting tracking.
- ☐ Verify proper blade tension, which can also cause tracking to vary. More tension tends to bring the blade "out" on the wheels.
- **1-1/4" Blade Tension** – 1,400 PSI
- **1-1/2" Blade Tension** – 1,700 PSI
- **2" Blade Tension** – 1,900 PSI **Note:** 2" blades require a wider pull and idler wheel
- ☐ If the problem exists after trying different blades, then proceed to the next section "Tracking the Blade".



Tracking the Blade

- ☐ Move saw head to front of the mill (end nearest the trailer tongue).
- ☐ Ensure machine power is off by removing the key from the ignition.
- ☐ Ensure the blade is properly installed; reference "Changing Blades" section if necessary.
- ☐ If equipped, remove the safety pin and locking pin from the de-barker arm.
- ☐ Open the left and right cowl doors.
- ☐ Rotate the idler wheel several rotations counter-clockwise and look at the blade gullet in relation to the front face of the wheel.

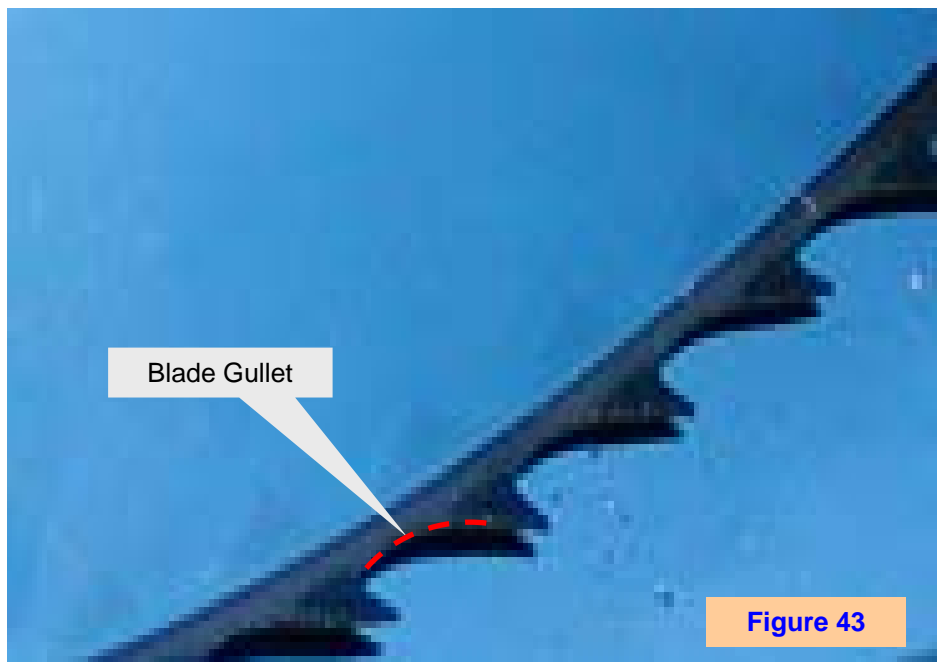
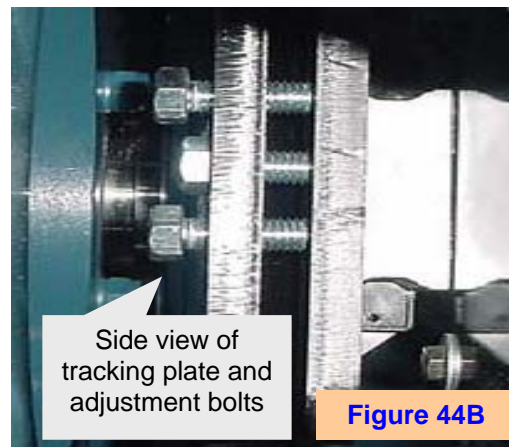
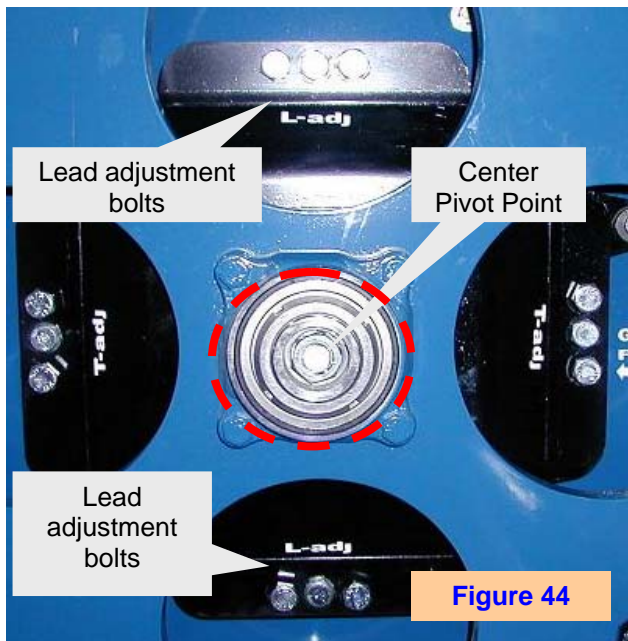


Figure 43

Tracking the Blade *(continued)*

- ☐ If the blade is out more than 1/32" you will need to adjust the blade tracking. The tracking plates are located behind each wheel and are labeled "T-adj" (for Tracking adjustment).
- ☐ For example, to move the blade tracking "inward" on the idler wheel you will adjust the left center bolts by loosening the (2) outer bolts and then tightening the (1) center bolt.
- ☐ Next make the same adjustments on the pull wheel, loosening the (2) outer bolts and then tightening the (1) center bolt.
- ☐ In some cases you may need to loosen the top and bottom bolts on the "L adj" (Lead adjustment) on the side you are moving.
- ☐ Rotate the idler wheel several rotations counter-clockwise and look at the blade gullet in relation to the front face of the wheel. Continue to adjust and fine tune as necessary.
- ☐ Once proper blade tracking as been achieved, re-tighten all tracking plate bolts on both wheels.

Note: All adjustments are based on a center pivot point. For example, to move the blade "in" on the drive wheel you will use the "right side" adjustment.



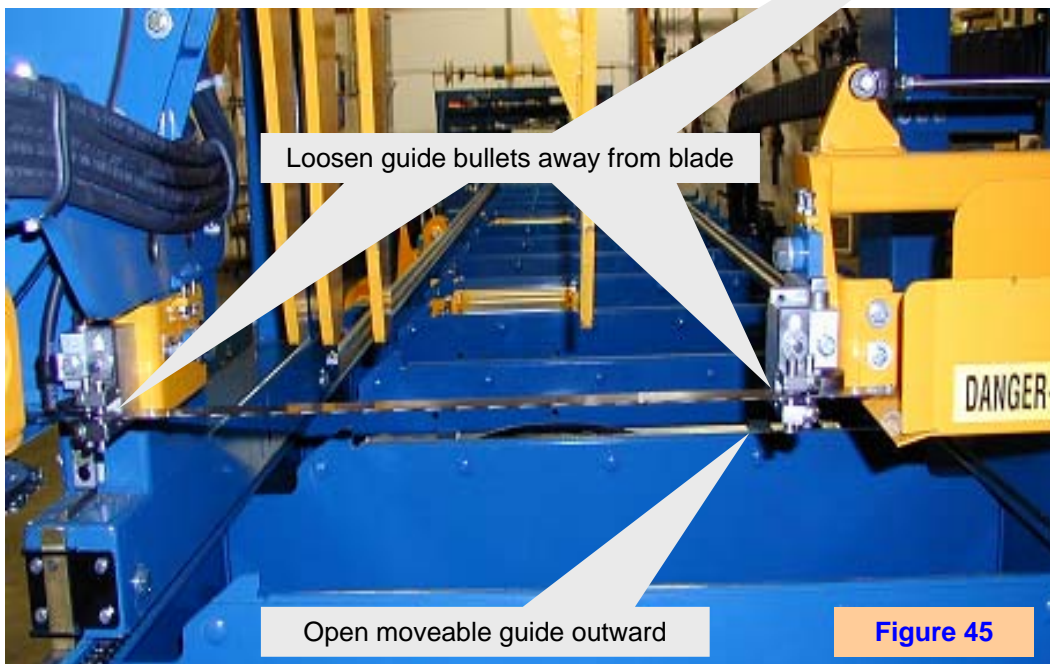
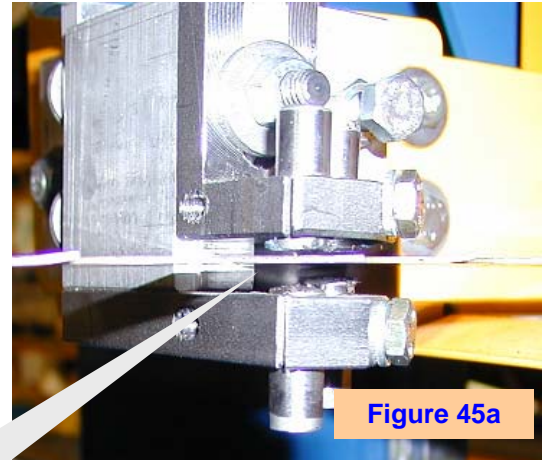


Blade Lead

Blade lead is the angle of the blade relative to the bunks. The lead must be 0" to 1/32" up from the back of the blade to the front. There are two ways to adjust Blade Lead. The first is with a good quality (48" minimum) straight edge and (2) 12" machinist's ruler or (1) machinist's ruler and a good quality tape measurer.

Note: *There should never be ANY down lead in a blade, this WILL cause very poor cuts and in extreme cases equipment damage.*

- ☐ If not already in position, move the saw head to the front of the mill (end nearest the trailer tongue) and lower the saw head down until it is approximately 12" above the bunk. This will give you good clearance to make the adjustments.
- ☐ Open the movable guide outward, toward the side nearest the carriage rail.
- ☐ Ensure machine power is off by removing the key from the ignition.
- ☐ Verify that the blade tension is at least 1,400 PSI. If not, adjust accordingly.
- ☐ Loosen the guide bullets away from the blade.



Blade Lead *(continued)*

- ☐ Next, open the left and right cowling door and check blade tracking to ensure the blade is tracking properly before making any lead adjustments.
- ☐ Rotate the wheels counter clockwise several times, and then stop the wheels so that the weld of the blade is on top between the wheels. This will ensure proper reading of the blade relative to the bunks.

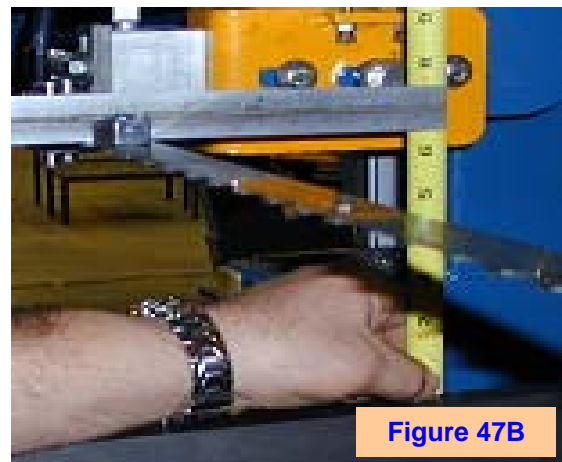


Blade Lead *(continued)*

- ☐ Place a straight edge (48" minimum) on the left side on top of the bunks close to the guide as possible.
- ☐ Lay a 12" straight edge on the blade between the teeth standing on edge in the center on the blade. You may need two 1/2" nuts to hold the straight edge up.



- ☐ With either a tape measure or another 12" straight edge measure the distance from the top of the 48" straight edge to the top of the 12" straight edge front and back at the end of the straight edge.



Blade Lead *(continued)*

- Once you've measured the left side, move your straight edges to the right side (nearest the moveable guide) and repeat the measuring sequence.

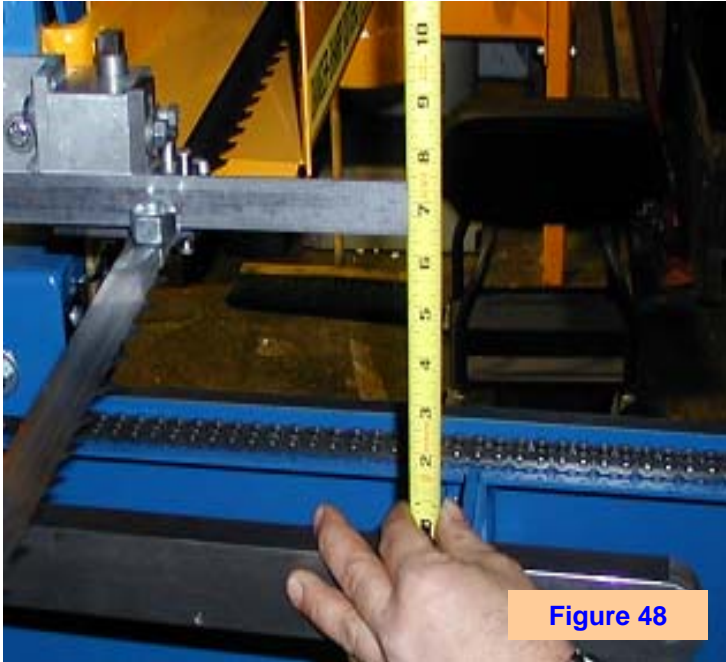


Figure 48



Figure 48A

Understanding Your Measurement Results

The ideal blade lead is flat to $\frac{1}{32}$ " up-lead (higher in front, nearest the cutting teeth) so for example, if the left and right side measure 7" in the front and $7\frac{1}{32}$ " in the back, this would be considered down-lead and as a result an adjustment would need to be made.

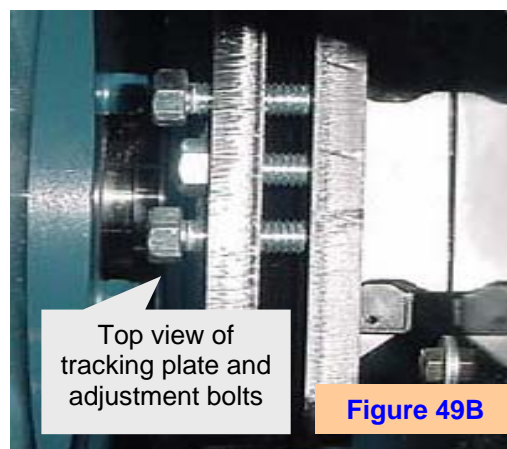
NOTE: Check these measurements in several different locations on the blade by rotating the wheels counter-clockwise, but do so without getting the weld of the blade on the bottom near the guides.

⚠ DANGER Blade Lead *(continued)*

- ☐ If adjustments are required. Use the “L-adj” (*lead adjustment*) on the tracking plates located behind each wheel. This is the top and bottom (vertical) wheel adjustment.
- ☐ For example tilting the top of the wheel back will add “up” lead to the blade.
- ☐ This will be done on both wheels until the proper lead on the wheels are met.
- ☐ If there is too much “up” lead on the blade the wheels will need tilted “down”.
- ☐ To achieve these adjustments you will need a $\frac{3}{4}$ ” socket and extension with ratchet.



- ☐ The **tracking plates** are a *push / pull* type of adjustment, so by **loosening the two out side bolts the center bolt becomes the main adjustment bolt**. Tightening the top center bolt will move the top of the wheel inward, putting more up lead into the blade.



- ☐ After making small adjustments on both wheels the blade will need to be re-measured.
- ☐ Continue repeating the steps above until the proper lead is achieved.
- ☐ **NOTE:** *The lead is set at the factory and should not have to be adjusted unless your machine has more than 500 hrs on it.*

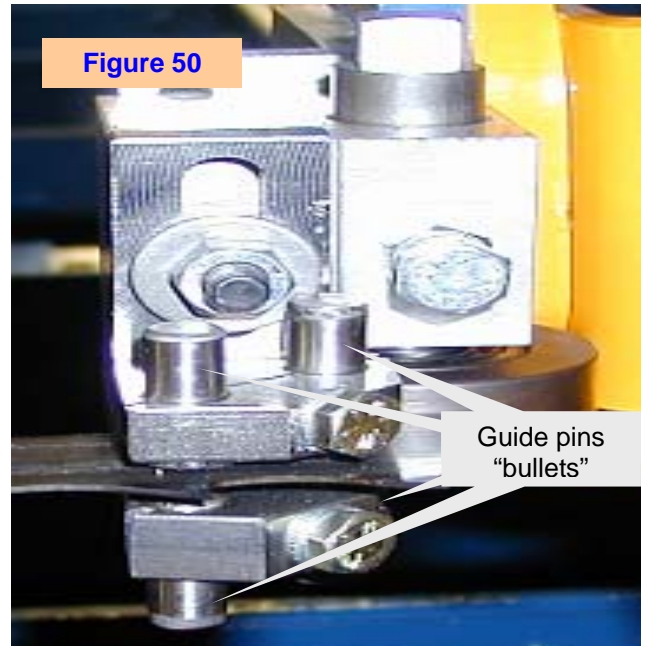
GUIDES

When properly set and utilized, band blade guides provide better blade control and longer blade life. Two types of blade guides are available for your Portable Band Sawmill. Specific instructions for each type of guide are outlined in the pages that follow.

Bullet Guide: Four pins (called “bullets”) provide blade support during cutting operation.

Advantage:

- Requires less machine “down-time” to set, re-set or replace
- Provides better control and consistency on wider band blades



Flat Guide: Two guide plates (top and bottom) provide blade support during cutting operation.

Advantage:

- Effective on narrower band blades, providing increased cut stabilization



Note: *It is extremely important that the blade tracking be properly set before attempting any guide adjustment. See the “Blade Tracking” section on page 43-44 for more information.*



Setting the Bullet Guides

- ☐ If not already in position, move the saw head to the front of the mill (end nearest the trailer tongue) and lower the saw head down until it is approximately 12" above the bunk. This will give you good clearance to make the required adjustments.
- ☐ Open the movable guide outward, toward the side nearest the carriage rail.
- ☐ Ensure machine power is off by shutting engine off and removing key from the ignition.
- ☐ Verify proper blade tension for the blade being used and if necessary adjust accordingly.
 - **1-1/4" Blade Tension** – 1,400 PSI
 - **1-1/2" Blade Tension** – 1,700 PSI
 - **2" Blade Tension** – 1,900 PSI **Note:** 2" blades require a wider pull and idler wheel
- ☐ Open the cowling doors and rotate the wheels counter clockwise to (A) ensure proper tracking and (B) to put the weld of the blade at the top and centered between the wheels. This will ensure the bullets are set to a flat part of the blade.
- ☐ Start by loosening the 1/4" bolts holding the bottom bullet guides and drop the bullets downward then re-snug them so they don't fall out (see **Figure 52** on next page).
- ☐ Loosen the top bullets and pull them upward so they are not touching the blade.
- ☐ Set the left guide by loosening the top 1/4" bolt and drop the bullets to the blade, making sure they are touching the blade with gravity only and then re-tighten the bolt.

Note: Do not apply any down pressure.



Figure 51

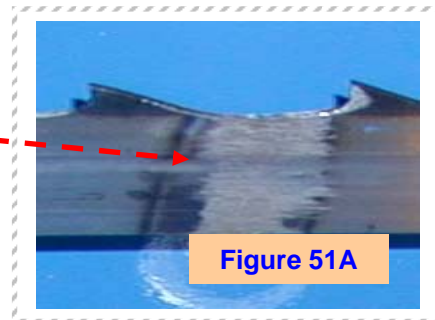


Figure 51A

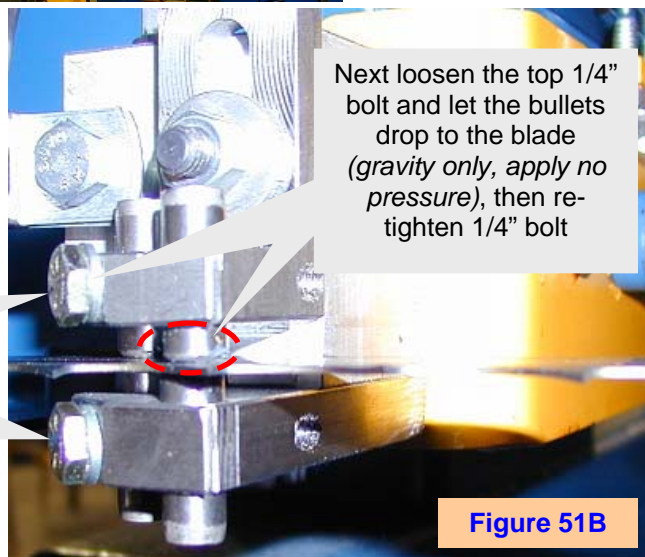


Figure 51B

Start by loosening the bottom and top bullet guides so they are not touching the blade, then re-snug so they don't fall out

Next loosen the top 1/4" bolt and let the bullets drop to the blade (gravity only, apply no pressure), then re-tighten 1/4" bolt



Setting the Bullet Guides (continued)

Follow the same instructions and procedure for the moveable guide.

- ☐ Loosen the 1/4" bolts holding the bottom bullet guides and drop the bullets downward then re-snug them so they don't fall out.
- ☐ Loosen the top bullets and pull them upward so they are not touching the blade.
- ☐ Set the right (moveable) guide by loosening the top 1/4" bolt and drop the bullets to the blade. Bullets should touch the blade with gravity only and then re-tighten the bolt.

Note: Do not apply any down pressure.

Loosen top and bottom bullets so they are not touching the blade, then temporarily re-tighten

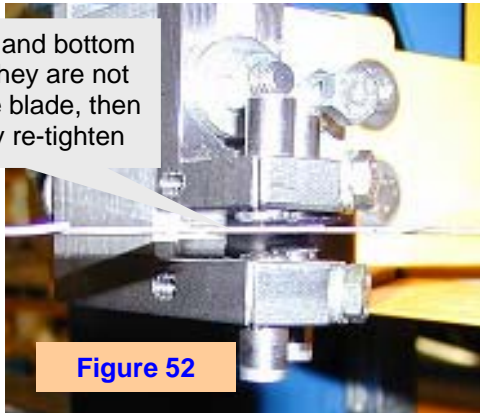


Figure 52

Loosen top bullets and drop the blade and re-tighten (Do not apply pressure!)

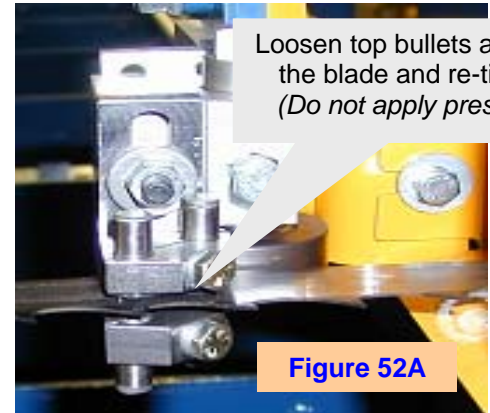


Figure 52A

Next the bottom bullets are ready to set.

- ☐ Loosen the left guide 1/4" bolt and then bring the bottom bullets up to the blade and apply a small amount of pressure to the blade. This will ensure a good snug fit to the blade.
- ☐ Retighten the 1/4" bolt holding the bullets up until the bolt is tight.
- ☐ Repeat the same sequence for the right (moveable) guide.

On the left guide, loosen and bring the bullets up to the blade with a light amount of pressure, then re-tighten



Figure 52B

On the right (moveable) guide, loosen and bring the bullets up to the blade with a light amount of pressure, then re-tighten

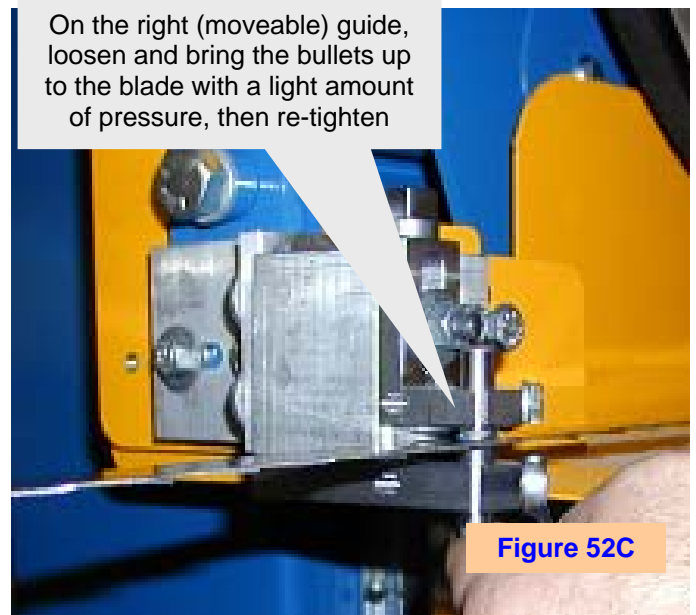


Figure 52C

- ☐ Finally, check band blade movement from left to right to ensure guides are holding securely without pinching or binding the band blade.



Setting the Flat Guides

- ☐ If not already in position, move the saw head to the front of the mill (end nearest the trailer tongue) and lower the saw head down until it is approximately 12" above the bunk. This will give you good clearance to make adjustments.
- ☐ Open the movable guide outward, toward the side nearest the carriage rail.
- ☐ Ensure machine power is off by shutting engine off and removing key from the ignition.
- ☐ Verify proper blade tension.
- ☐ Verify proper blade tracking.
- ☐ Start by taking the top guide foot off the guide block on both the left and right (moveable) guide by removing the 5/16" nuts on the front of the guide. This will allow the top guide pad to be removed from each side.
- ☐ Next loosen the two 5/16" nuts on the backside of each of the guide block assemblies.
- ☐ This will allow the bottom guide pads to move down, away from the blade.

Left
guide
side
view

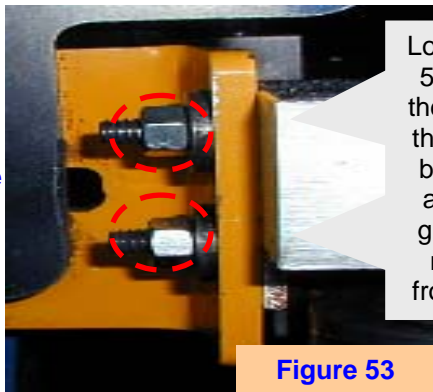


Figure 53

Loosen the two 5/16" nuts on the backside of the (left) guide block plate to allow bottom guide pads to move away from the blade

Loosen the two 5/16" nuts on the backside of the (right) guide block to allow bottom guide pads to move away from the blade

Right
guide
side
view

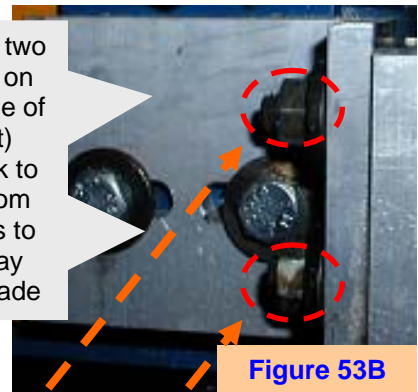
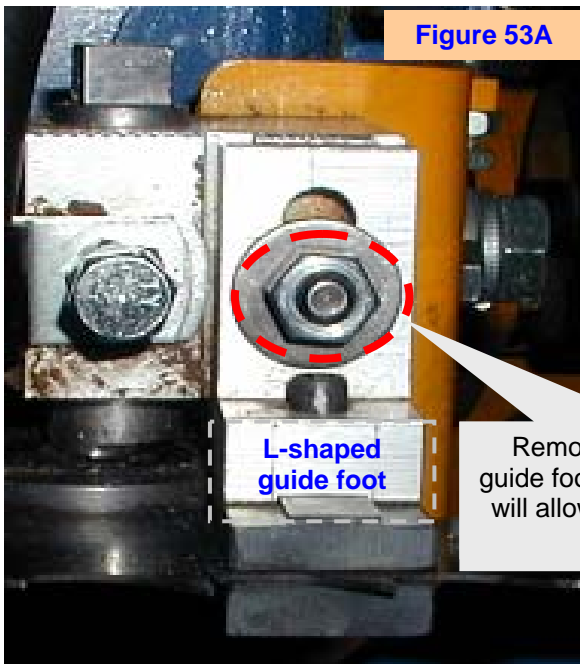


Figure 53B

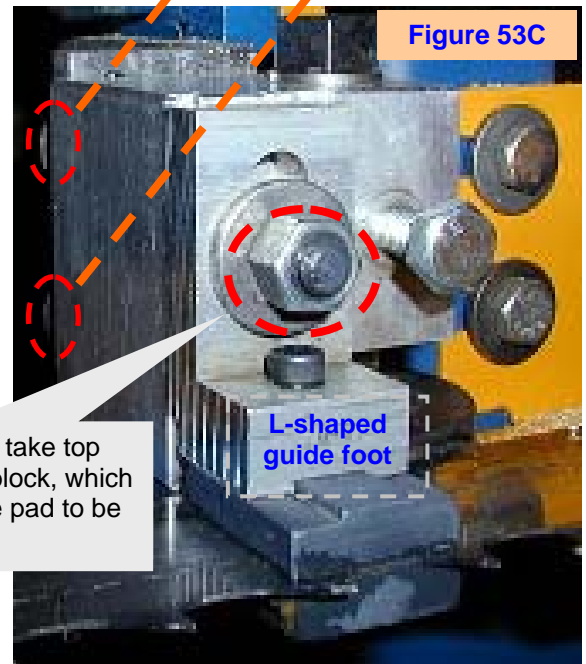
Figure 53A



L-shaped
guide foot

Remove 5/16" nut to take top guide foot off of guide block, which will allow the top guide pad to be removed

Figure 53C



L-shaped
guide foot

Left Guide Assembly

Right Guide Assembly



Setting the Flat Guides (continued)

Now prepare to set the bottom guide pads to the bottom of the blade. The bottom guide pads have two adjustments that are done on the same block, up/down and side-to-side.

Note: *This is the most critical part of setting the flat guides.*

- ☐ Begin with the **left side guide** by raising the bottom pad upward to the blade, applying a light amount of pressure so that the pad is touching the bottom of the blade, then tighten the two 5/16" nuts located on the back of the guide assembly.

Left
side
guide

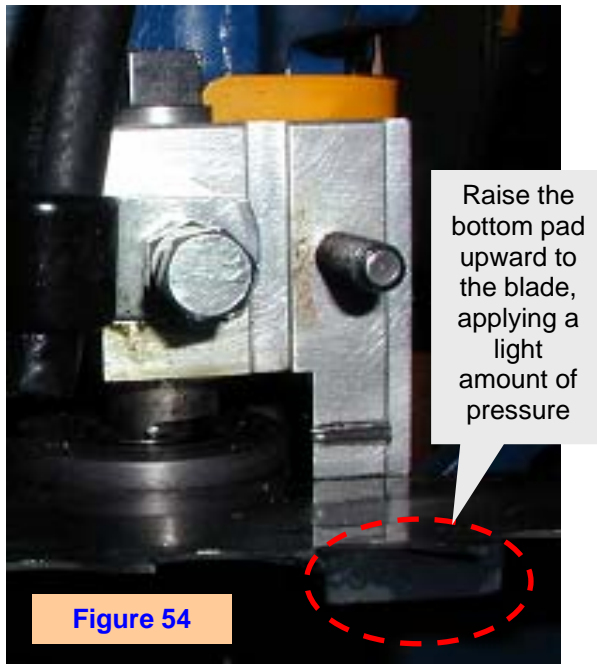


Figure 54

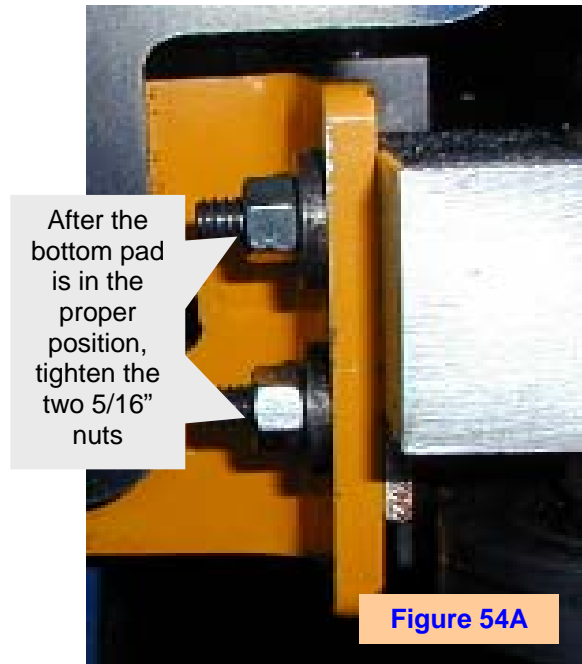


Figure 54A

Note: *A temporary adjustment is needed for the next step.*

- ☐ Check the side-to-side positioning to ensure the pad is even and level with the blade.
- ☐ Next check the front-to-back alignment (tilt) and ensure the pad is even and level with the blade.
- ☐ With your finger, tap on the front edge and the back edge of the blade in order to tell where the biggest gap is. For example, if the pad is farther away in the back of the blade then you will tilt the front of the pad down to get the pad as flat as possible to the blade.
- ☐ If required, adjust the two 1/4" bolts that push down (tilt) on the side-to-side adjustment assembly.



Setting the Flat Guides *(continued)*

- ❑ To adjust the tilt on the **left side guide** you will need to loosen the two 5/16" bolts on the in and out adjustment plate and the 5/8" bolt in the middle of the plate. This will allow the tilting plate to move.
- ❑ Tilt the pad down in the front by loosening the back 1/4" bolt just a little then tighten the front bolt the same amount as you loosen the back bolt this will ensure the adjustment bolt have pressure on both bolts.

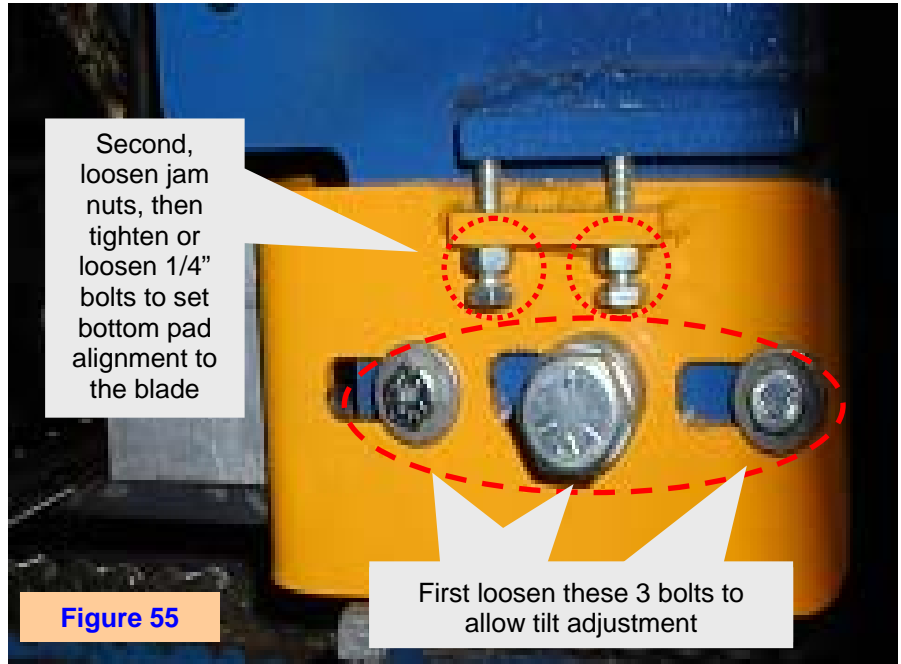


Figure 55

- ❑ As a result of making a tilt adjustment and checking the blade to the pad as each adjustment is made, you may need to make an up or down and side-to-side adjustment before achieving the desired tilt adjustment.
- ❑ Once the adjustment is complete make sure there is no up or down pressure on the blade.
- ❑ Return the top guide pad to its proper position by attaching the L-shaped guide foot and pad, then tighten the 5/16" nut.

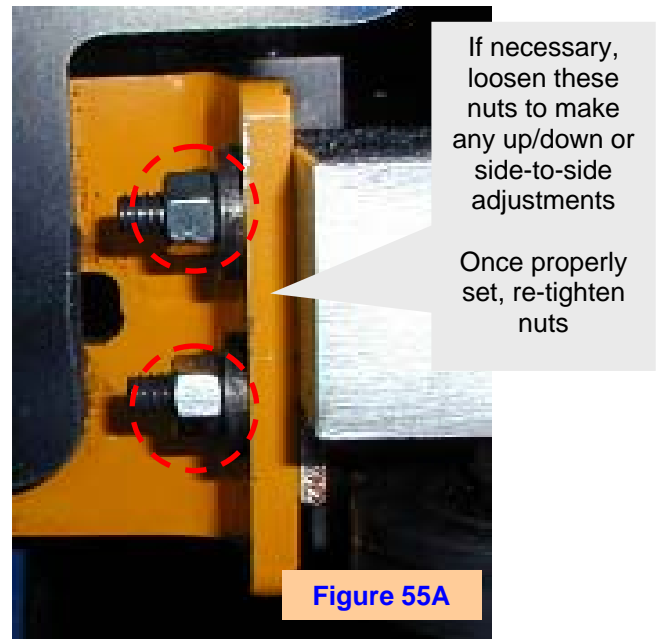
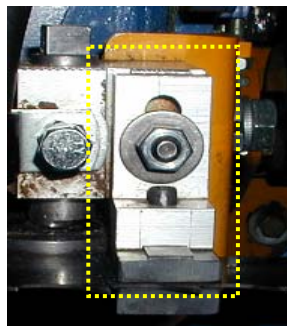


Figure 55A

Note: The pad should just touch the blade without deflecting the blade in any direction when the proper adjustments are made.

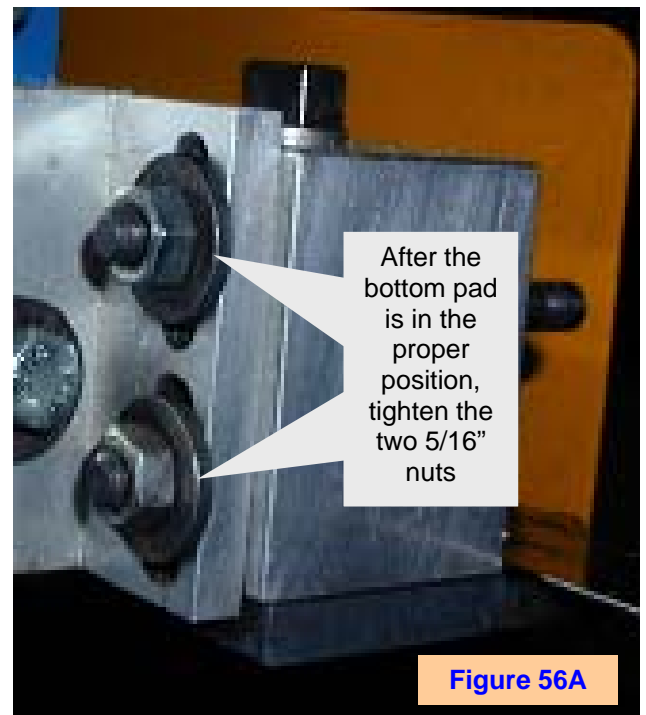
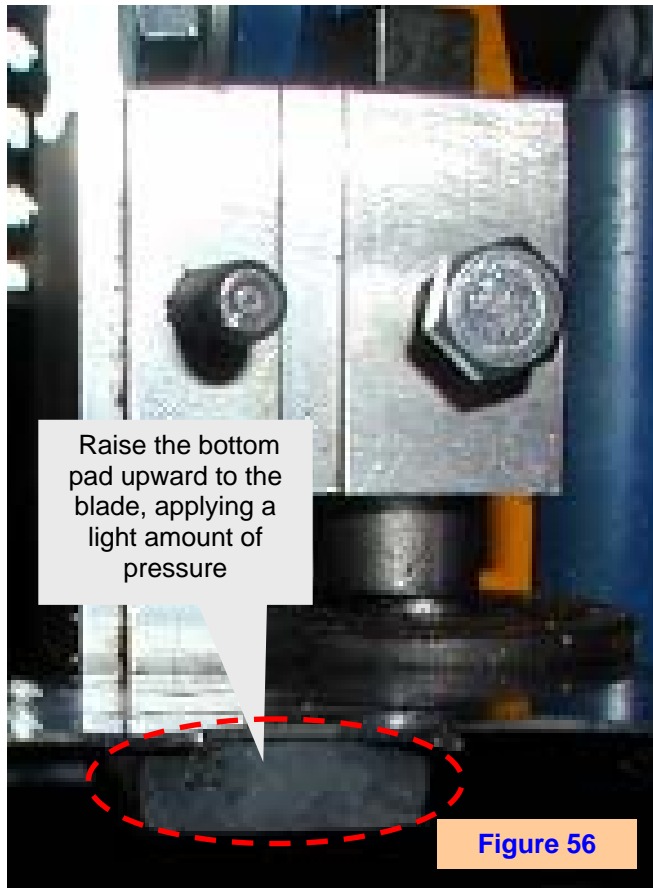


Setting the Flat Guides *(continued)*

The **right side (moveable) guide** is set in the same manner and sequence as the left guide except the tilting bolts are on the top of the guide arm.

Note: *This is the most critical part of setting the flat guides.*

- Begin with the **right side guide** by raising the bottom pad upward to the blade, applying a light amount of pressure so that the pad is touching the bottom of the blade, then tighten the two 5/16" nuts located on the back of the guide assembly.



Note: *A temporary adjustment is needed for the next step.*

- Check the side-to-side positioning to ensure the pad is even and level with the blade.
- Next check the front-to-back alignment (tilt) and ensure the pad is even and level with the blade.
- With your finger, tap on the front edge and the back edge of the blade in order to tell where the biggest gap is. For example, if the pad is farther away in the back of the blade then you will tilt the front of the pad down to get the pad as flat and square as possible to the blade.
- If required, adjust the two 1/4" bolts that push up and down (tilt) the side-to-side adjustment assembly.



Setting the Flat Guides (continued)

- ❑ To adjust the tilt on the **right side guide** you only need to loosen the 5/8" bolt in the middle of the plate. This will allow the tilting plate to move.

Note: The 5/16" bolts DO NOT need to be loosened for right side guide tilt adjustment.

- ❑ Tilt the pad down in the front by loosening the back 1/4" bolt just a little then tighten the front bolt the same amount as you loosen the back bolt this will ensure the adjustment bolt have pressure on both bolts.
- ❑ As a result of making a tilt adjustment and checking the blade to the pad, you may need to make an up or down and side-to-side adjustment before achieving the desired tilt adjustment.
- ❑ Once the adjustment is complete make sure there is no up or down pressure on the blade.

Note: Double-check the left side of the blade to the bottom pad on the left guide to ensure alignment is uniform across both the left and right bottom guide pads. If not, an adjustment will be required.

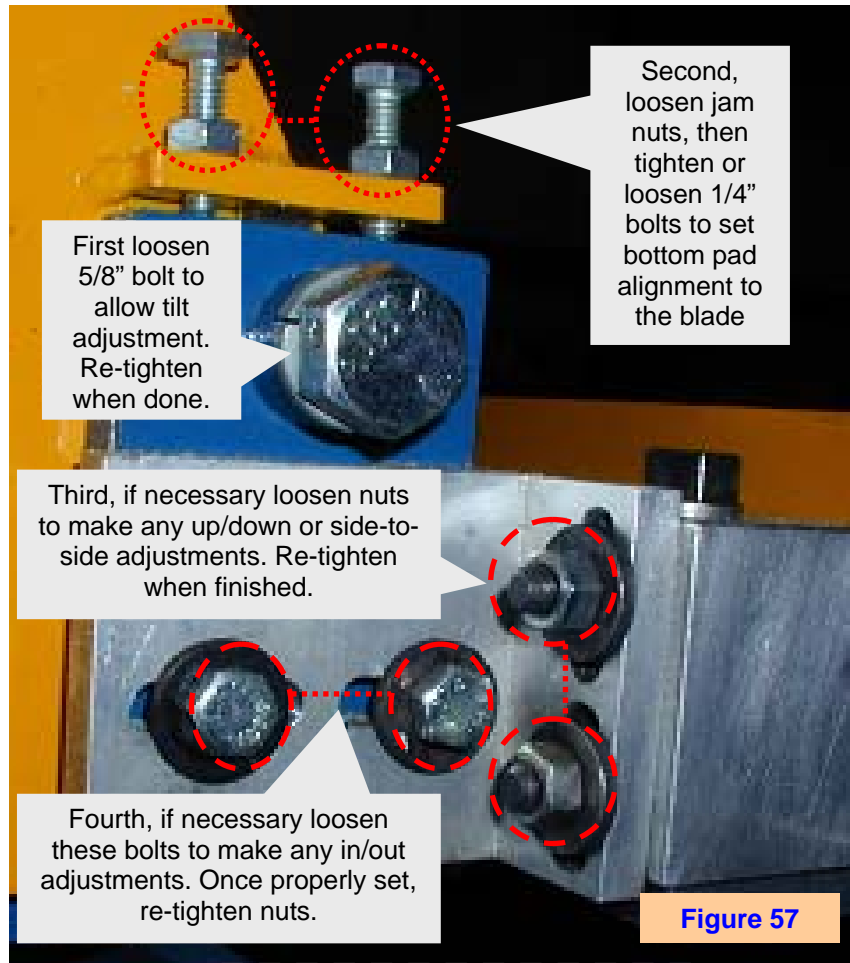


Figure 57

- ❑ Once the bottom pads have been adjusted, check the in/out adjustment on the pad to the front edge of the blade. Proper spacing should be 1/16" to 1/8" from the gullet of the blade to the front of the pads.

Return the top guide pad to its proper position by attaching the L-shaped guide foot and pad, then tighten the 5/16" nut.

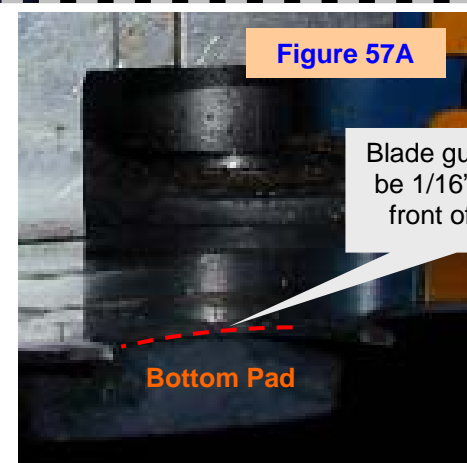
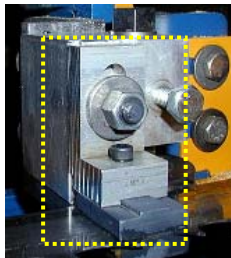


Figure 57A

Note: The pad should just touch the blade without deflecting the blade in any direction when the proper adjustments are made.



Setting the Guide Holders and Bracket

- ☐ If not already in position, move the saw head to the front of the mill (end nearest the trailer tongue) and lower the saw head down until it is approximately 12" above the bunk. This will give you good clearance to make the adjustments.
- ☐ Open the movable guide outward to the middle of the rail.
- ☐ Ensure machine power is off by removing the key from the ignition.
- ☐ Verify blade tension is set to the correct pressure:
 - 1-1/4" – 1,400 PSI
 - 1-1/2" – 1,700 PSI
 - 2" Blade – 1,900 PSI
- ☐ Open the cowling doors and rotate the wheels counter clockwise to (A) ensure proper tracking and (B) to put the weld of the blade on top between the wheels. This will ensure the bullets are set to a flat part of the blade.
- ☐ Loosen the bullet guides and move them away from the blade.
- ☐ Loosen the 5/16" bolt that holds the guide wheel roller and rotate the cam so that the wheel is away from the blade.

Loosen the 5/16" and the 5/8" bolts (*on the left side only*) that are on the "L" shaped bracket which is the adjustment for the in and out.

Note: *The 5/8" bolt will not apply on the right guide.*

- ☐ A tilting adjustment is done with the 1/4" bolts on the side "L" shaped brackets. This can help to get proper wear to the bullets on the front and back.
- ☐ The front bullet should be set approximately 1/16" to 1/8" behind the gullet of the blade.

Note: *The top bullets may need to be touching the blade to make this adjustment.*

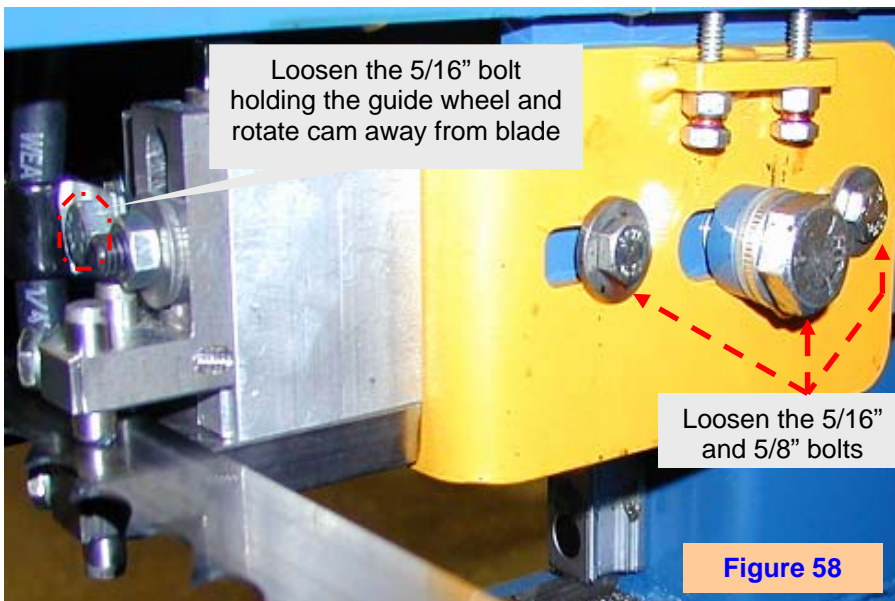


Figure 58

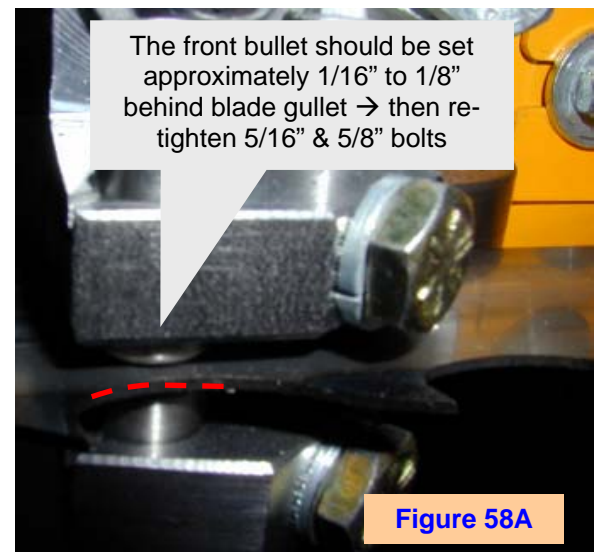


Figure 58A



Setting the Guide Holders and Bracket *(continued)*

- ☐ Use the two 5/16" nuts on the back of the aluminum block to make the up/down and side-to-side adjustments. This will ensure the bullets wearable surface is equal between the bullet holders.
- ☐ A tilting adjustment is done with the 1/4" bolts on the side "L" shaped brackets. This can help to get proper wear to the bullets on the front and back.
- ☐ Adjusting the tilt for the moveable guide is done in the same manner, but the 5/16" bolt will not have to be loosened to make the adjustment, but the 5/8" bolt will.
- ☐ Loosen the jam nuts, then use the 1/4" bolts on top of the tilt bracket to adjust the guides so that they are vertically centered to the blade.
- ☐ After proper tilting is accomplished, retighten the 1/4" jamb nuts and the 5/8" bolt.
- ☐ You are now ready to set the bullet guides to the blade (see **Page 51** and **Page 52** for detailed instruction).

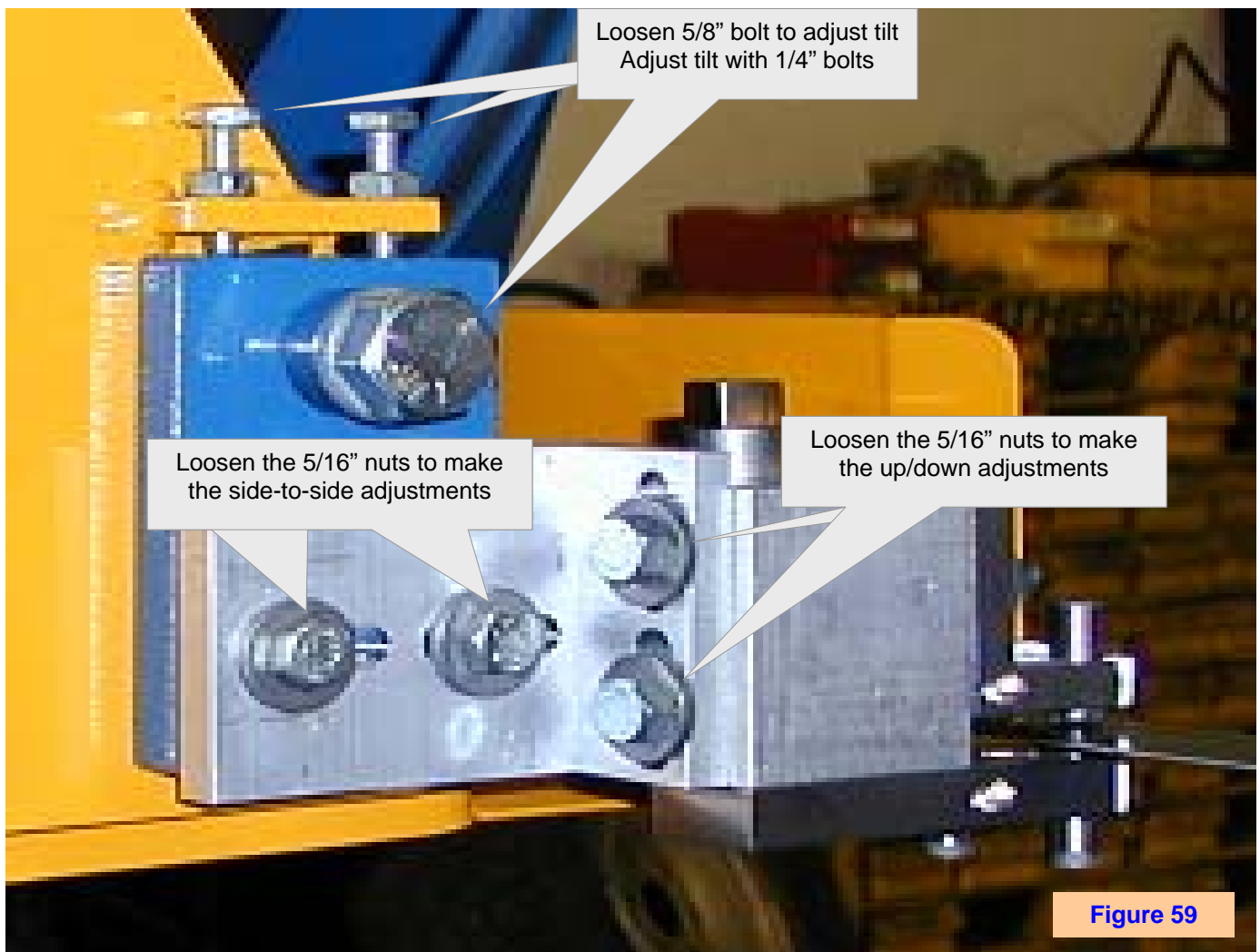


Figure 59

Lubricating the Blade

Baker Band Sawmills come standard with a drip type blade lubrication system. They are designed to help prevent residue build up, provide some blade cooling, and maximize blade life. The system consists of a holding tank, tank on/off valve and flow control/regulation valve. The tank on/off valve is used to turn the drip “on” when running and “off” when not in use, as well as ensure the tank will not leak during mill transport or during off usage periods, nights, weekends, etc. The flow control/regulation valve is used to control the amount of liquid flowing to the blade.

The type of lubricant used on the blade depends on the species of wood being cut.

- ☐ Hardwoods (Oak, Cherry, Maple, etc.) do not contain high amounts of pitch. In this case, water will be an adequate lubricant to use.
- ☐ Soft and hard woods that do contain a high amount of pitch (Pine, Cedar, Spruce, Fir, Hemlock, Hickory, Walnut, etc.) can stick to the blade and blade guides causing friction and lead to rapid heat build-up and cause blade breakage. To prevent this, mix 1 cup of powder detergent to 5 gallons of water in your drip tank.
- ☐ For extreme build up on the blade, water-soluble oil can be used.



Diesel fuel or other flammable liquids should not be used as a lubricant. Baker Products will not be held responsible for any damage if this caution is not adhered to. Petroleum products will attack and damage rubber items such as hydraulic hoses and belts. These products can also be harmful to the environment.

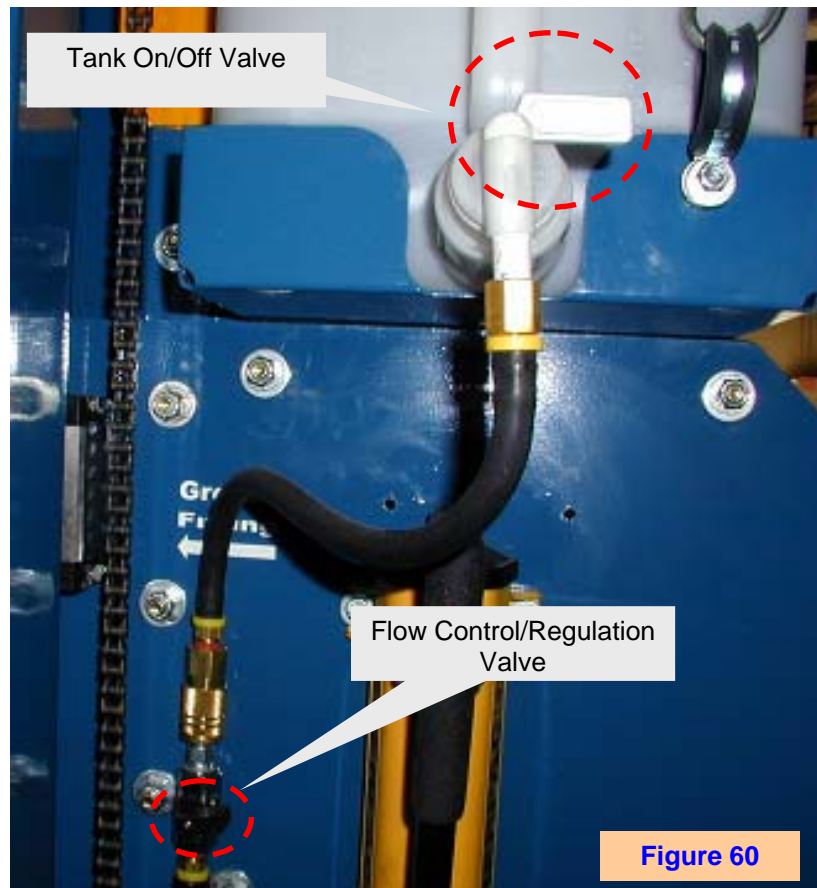


Figure 60



Drive Wheel Adjustment

The pull (drive) wheel is on the right as you are facing the saw head. The wheel is factory set and should stay within tolerances for several years. However, as with any rotating machinery, parts eventually must be replaced. Whenever any parts involved included in the drive assembly are replaced the pull wheel alignment must be checked.

Note: *Before making any adjustments to the pull wheel ensure that the guides are not touching the blades. Refer to the *Setting The Guides* section for more information.*



Verify the Drive Wheel Alignment

- ☐ Ensure machine power is off by removing the key from the engine's ignition.
- ☐ If equipped, remove the safety pin and locking pin from the de-barker arm.
- ☐ Open the left and right cowling doors.
- ☐ Install a new blade centered on each wheel. Do not rotate the wheels after the new blade has been properly centered (this prevents the blade from tracking off center).
- ☐ Ensure the new blade has been tensioned properly and refer to the section *Changing Blades* (**page 42**) for more information.
- ☐ Check the blade lead as close to the drive wheel as possible; see the *Blade Lead* section for more information (**page 45-49**).
- ☐ If the lead is within tolerance (0" - 1/32" up or down lead) proceed to the *Idler Wheel Adjustment* (**page 62**).
- ☐ If the blade lead is out of tolerance follow the *Blade Lead* adjustment procedure as outlined (**page 45-49**).



Checking the Drive Wheel to Idler Wheel Alignment

Note: Having the head frame as level as possible before conducting this check will greatly improve the accuracy of the check and any needed adjustments.

- ☐ Ensure machine power is off by removing the key from the engine's ignition.
- ☐ Take a reading using a quality magnetic level or an 8" - 12" bubble level on the horizontal plane of the carriage head frame.
- ☐ Next place the level on the vertical plane of the idler wheel and take a reading, then proceed to the pull wheel and take a reading.
- ☐ If the three readings are not the same, rotate the idler and pull wheels clockwise and evaluate the tracking in the reverse effect. This will indicate if the alignment is proper. If it is not, go to the "*blade lead*" ([page 45-49](#)) and "*tracking*" ([page 43-44](#)) sections of the manual for further instruction.



Figure 62



Figure 62A

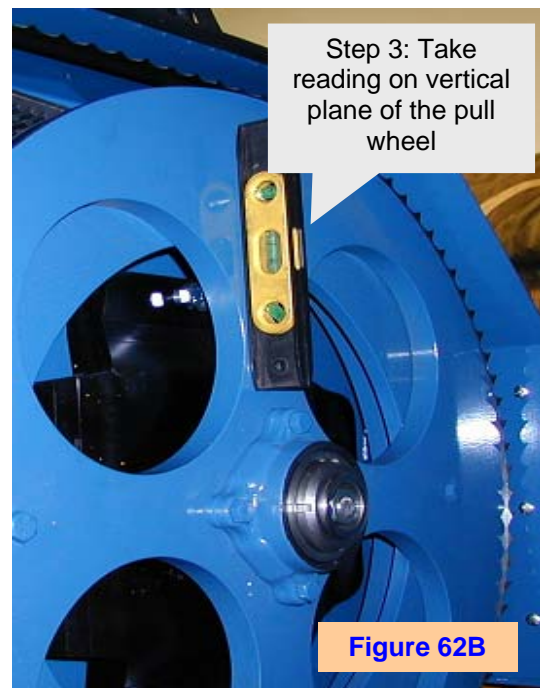
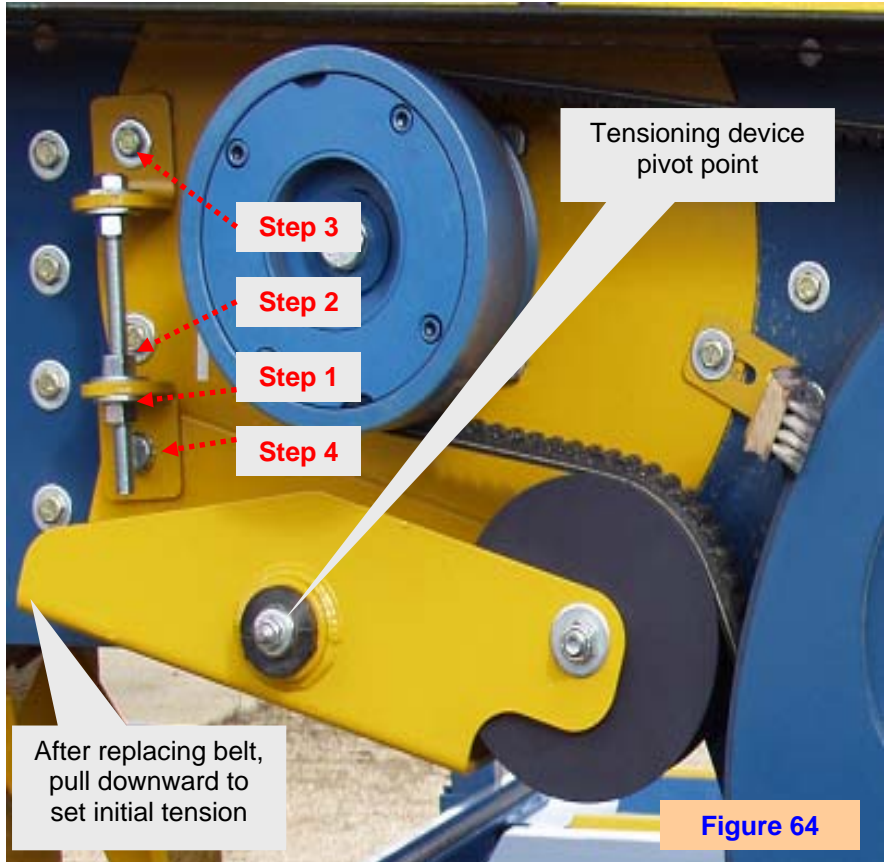


Figure 62B



Changing the Drive Belt

- ☐ Run the carriage to the tongue end of the mill.
 - ☐ Ensure machine power is off by removing the key from the engine's ignition.
 - ☐ Release blade tension by venting the hydraulic pressure (see **Figure 32** on page 32).
 - ☐ Open the cowling doors and **remove the blade**. See “Changing Blades” (page 42) for proper procedures and safety precautions.
 - ☐ Loosen the 1/2” jamb nut (**Step 1**) on the bottom side of the tensioning device.
 - ☐ Loosen the 1/2” nut (**Step 2**) on the topside of the belt-tensioning device.
 - ☐ Loosen the 3/8” bolt (**Step 3**) on the top pivot followed by the 1/2” bolt (**Step 4**) on the bottom pivot of the tensioning device. This will allow the tensioning device and belt to loosen.
 - ☐ The belt is now ready to be removed. Pull the belt off the clutch side first then the drive wheel side.
 - ☐ Replace the new belt in the opposite manner, over the drive wheel first, then over the clutch. In some cases you may need to rotate the clutch housing and roll the belt onto the clutch.
 - ☐ Once the belt is in place, pull the belt tension device downward as much as possible and then run the top 1/2” nut (**Step 2 reference**) downward until the belt is snug. Belt tension should be “taut” with no more than 1/2” of deflection in the belt.
 - ☐ Rotate the drive wheel several times to ensure the tension is spread though out the belt and not just in one spot on the belt.
 - ☐ After rotating the drive wheel you will need to re-tension the belt until there is proper tension on the belt (1/2” of deflection, see **Figure 33** on page 33 for visual illustration).
- NOTE:** You may need to rotate the wheel more than once after each belt tension adjustment to verify proper tension.
- ☐ Once the proper tension is achieved, tighten the bottom 1/2” jamb nut (**Step 1 reference**), 3/8” bolt (**Step 3 reference**) on the top pivot and 1/2” bolt (**Step 4 reference**) on bottom pivot.
 - ☐ Replace the blade and re-set for proper blade tension. Remember to also verify proper blade tracking, guide alignment and blade lead.
 - ☐ Once the above items have been completed, close the cowling doors.





Calibrating the Measurement Dial

Without networks, accurate cuts are dependant on the measurement dial and the ability to determine the exact height of the blade in reference to the log bunks. The measurement dial does not have the blade kerf factored in so in order to cut accurate lumber thickness, you must add-in and allow for blade kerf thickness to the desired thickness of the lumber you are cutting. If blade kerf is not known, allow for 1/8" kerf, and then verify your cut lumber's thickness.

A properly calibrated dial is necessary to determine the height of the blade to the log bunks so that the ending cut is accurate to the dial. For example, if you make cuts for a 6"x6" and it measure 5-7/8" at the ends and middle, then this would indicate the measurement dial is calibrated.

- ☐ Move the saw head so that the blade is directly over a log bunk (*preferably the last bunk at the front of the mill*).
- ☐ Lower the saw head so that the blade is between 6" to 10" from the bunk.
- ☐ Ensure machine power is off by removing the key from the engine's ignition.
- ☐ Using a 12-inch machinist ruler or tape measurer, **measure from the bottom of the down hook tooth to the bunk.**

Note: *If the measurements are not the same, the dial will need to be calibrated.*

- ☐ To calibrate the measurement dial, loosen the 1/2" bolt in the center of the dial.
- ☐ Reposition the dial to the pointer by turning it to the desired numeric measurement taken in the previous step.
- ☐ When the measurement dial is at the desired value, re-tighten the 1/2" bolt in the center of the measurement dial.
- ☐ You are now ready to cut material and verify dial is properly calibrated.



Figure 64



Troubleshooting Chart

The trouble shooting section is divided up into **Hydraulic, Mechanical, Electrical,** and **Production**. None of these sections is meant to be all-inclusive, but is meant to be a guide for the few common problems that might be experienced by customers in the field. If you do have a problem that cannot be easily resolved in the field, please see the Before You Call section for information about questions you will be asked about various problems.

For sawmills equipped with the computer networks, please refer to the “**Computer Networks Owners Manual for Baker Band Sawmills**” for assistance.

NOTE: Baker Products strongly recommends that a qualified electrician perform all electrical troubleshooting and repairs. Baker Products will not be held responsible for injuries or damages caused by unqualified personnel attempting maintenance or repair. The customer is responsible for compliance with all federal, state, and local electrical codes.



Ensure machine power is off by removing the key from the engine's ignition. Whenever possible, follow Lockout / Tagout procedures prior to performing any checks or maintenance.

Hydraulic Problems:



Do not perform any non-required adjustments on the hydraulic system. Doing so may cause excessive and dangerous pressures on the hydraulic system that could result in personal injury and/or equipment damage. Also, non-required adjustments to the hydraulic system may void your warranty. Hydraulic problems are very rare with Baker Band Sawmills. Most problems can usually be traced to changes in pressure or flow. If a hydraulic part does fail, all valves are modular and are relatively easy to replace.

If	Check
Head will not go up with the manual valve, but will travel down with the manual valve.	<ol style="list-style-type: none">1. Check the pressure at the operator station. → If there is no pressure at the operator station the main flow may be block. Check to see if another function works properly such as the fence arms, and toe rollers by moving them and bottom them out and hold pressure to them check the main pressure again. If the pressure is 1500 to 1800psi then the main pressure is fine. If the pressure is low and the other functions are slow the problem may be up stream in the hydraulic system. Go to next step.2. Check the hoses at the junction on the saw head for flex when the valve is pulled for up motion. → If the hoses are flexing and the pressure is minimal then there may be a problem in the mechanical part of the lifting see mechanical problems of this manual. If the mechanical is not the problem the flow to the motor may be diverting though the solenoid valve body. Check to see if one of the coils are activated by removing the big black knob on the top

	<p>or bottom of the coils if they are not energized they will be loose on the piston. If one of the coils is energized then refer to the electrical part of this manual for further information. If not continue to next step.</p> <p>3. Check the hoses at the motor for flex when the valve is pulled for up motion.</p> <p>→ If the hoses are flexing at the motor and the pressure is minimal at the operator station then check the pressure at the manifold station located on the left side of the saw head. If the pressure is low then the main pressure may need to be adjusted. The valve may be adjusted with a 5/32 Allen wrench and a 9/16 wrench by turning the adjuster screw clock wise will increase the pressure.</p> <p>4. Check the offset if set works are applicable on your system to see if the offset will raise the saw head.</p> <p>→ If the off set will raise the head the problem may be in the manual valve. To check the valve shut off the engine or power before continuing. On the manual valve remove the cap on the back side of the valve with a 3/16 Allen wrench and clean the spring and cup replace the cap and try the function again. If this didn't fix the problem contact our service department immediately.</p> <p>→ If your system does not have set works the manual valve procedure is the same.</p>
Nothing moves hydraulically and gauge at the control station shows no pressure.	<p>Either the hydraulic pump or the main system pressure valve is defective.</p> <p>For diesel models, swap the front and rear main system pressure valves. If the problem is corrected the original valve is defective. If the problem remains, the hydraulic pump is defective.</p> <p>For electrical models, if the gauge on the hydraulic unit shows pressure, but the gauge at the control station does not, the main system pressure valve is defective. If the gauge on the stand-alone unit shows no pressure the problem is in the pump assembly.</p>



Mechanical Problems:



Although mechanical problems are rare, there are a few high wear/stress areas that could develop problems. If you have a mechanical problem please see the symptoms below.

If	Check
<p>Saw head is not level. One side of the saw head comes to a stop at the top or bottom of travel before the other.</p> <p>The sawmill is cutting at an angle (side to side).</p>	<p>The saw head needs to be leveled.</p> <p>Bring the head to the bottom of the travel, ensuring that it is all the way down. Loosen the 7 bolts on the rack gear on the inside right of the saw head (measuring wheel side). With a rubber mallet, tap the top of the rack gear until it is seated properly. Tighten the 7 bolts. NOTE: It is not necessary to adjust or loosen the jacking bolt under the rack gear.</p>
<p>Head surges when traveling the length of the sawmill.</p>	<p>The track chains are loose.</p> <p>At the back of the sawmill, on the left and right sides are the track chain adjustment bolts. Both of the track chain should have approximately 2" of slack when lifted at the center of the mill.</p> <p>Tighten the track chain(s) adjustment bolts until the correct amount of slack is present at the center of the mill.</p>
<p>Log turner, fence arms, clamp, or toe rollers will not rise, but all pressures are good.</p>	<p>The affected part is binding and requires lubrication. Grease the appropriate part with grease.</p>



Electrical Problems:



Electrical problems are divided into 3 sections. The first will cover 12 volt DC systems on the diesel powered models. The second section will cover AC/3 Phase powered models. The final section will cover networks systems (the networks systems are virtually identical on 12VDC and AC/3 phase models).

Some basic electrical trouble shooting tools, such as a multi-meter (voltmeter and ohmmeter combination) and a good combination screwdriver are required for some of the procedures listed in this section. Basic knowledge in electricity is required.

The Electrical Trouble Shooting Section is provided to assist qualified electricians perform field repair and maintenance to your sawmill.

NOTE: Baker Products strongly recommends that a qualified electrician perform all electrical troubleshooting and repairs. Baker Products will not be held responsible for injuries or damages caused by unqualified personnel attempting maintenance or repair. The customer is responsible for compliance with all federal, state, and local electrical codes.

The first rule of troubleshooting any electrical problem is, "Check the power supply". A great majority of electrical problems can be traced to the power supply. Always ensuring all incoming power is available before beginning any troubleshooting procedure can save excess labor and down time. This includes making sure batteries are charged and capable of supplying appropriate power. Always ensure all phases are available and that all are at the correct voltage.

Sawmills that have unauthorized electrical modifications or sub-standard repairs are not supported by this guide or by Baker Products.

If	Check
Motor will not turn over; lights on the control panel will not light (guide arm, throttle, networks, and debarker will activate).	<p>12VDC is being supplied to the networks and control circuitry, but not to the engine wiring harness.</p> <p>Check the green fusible link in the engine wiring harness.</p> <p>If the fusible link is good, check the key switch in the engine control box. Refer to the electrical schematic in the Engine Operators Manual for more information.</p> <p>12VDC is not being supplied to any of the system components.</p> <p>Check the battery cables and ensure they are clean and tight. Ensure the batteries are properly charged and capable of supplying the required power.</p>



Motor will not turn over, no lights on the Kubota control panel will light, and no other functions operate.	<p>12VDC is not being supplied to any of the system components.</p> <p>Check the battery cables and ensure they are clean and tight. Ensure that the batteries are properly charged and capable of supplying the required power.</p>
Engine shuts down randomly, and requires the key to be turned off and back on before restart.	<p>The fuel shut off solenoid or associated wiring may be damaged or defective.</p> <p>Check the wiring to the fuel shut off solenoid for loose connections or breaks.</p> <p>Replace the fuel shut off solenoid.</p> <p>Refer to the Diesel Engine Operators Manual for more trouble-shooting tips information.</p>
Debarker will not activate.	<p>Open electrical panel on dust chute side of head carriage and check 15 amp fuse, debarker wires on terminal strip and debarker solenoids to see if they are energized.</p> <p>12VDC is not being supplied to the debarker, the debarker control solenoid, or the solenoid control circuitry.</p> <p>Please refer to the Control Schematics section and Panel Layout section for more information.</p>
Debarker locks up when it is into the material.	<p>Debarker is being forced into the material too hard.</p> <p>Check the pressure.</p>
Guide arm will not move in either direction.	<p>12VDC is not being supplied to the guide arm solenoid or the guide arm switch is defective.</p> <p>Please refer to the Control Schematics section and Panel Layout section for more information.</p> <p>While holding one multimeter lead on the GA+ terminal and the other on the GA- terminal move the guide arm switch to the left and right. If there is +12VDC and -12VDC as the switch is moved, check the wiring from the terminal to the guide arm for loose or broken connection.</p> <p>Ensure solenoids are energizing.</p>



<p>Guide arm will not move in one direction.</p>	<p>12VDC is not being supplied from one side of the debarker switch.</p> <p>Please refer to the Control Schematics section and Panel Layout section for more information.</p> <p>One solenoid may not be energizing.</p>
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Production Problems:

WARNING Blade tension, blade quality, and guide settings are the key factors for good production. Ensure these are properly set and adjusted prior to making any other adjustments or repairs.









If	Check
Boards have a crown (bow on top) when cut.	The blade may have too much set on the top, the bottom teeth may be dull, or the guides may be putting up lead in the blade. Install a new blade. If this does not solve the problem check the blade tension, guide settings.
Blade seems to drift or wander, creating a wavy cut (hills and valleys).	Check the blade guide for proper settings, the blade may be dull, the sawing speed may be too fast for the width of cut, check the tension, or blade tracking. Change the blade then try another cut. If this doesn't solve the problem then refer to the guide setting part of this manual.
Boards have a taper-up at the entry point of the cut.	Check the blade guides to see if the guides are tilted, putting up lead into the blade. Note: <i>The first 6" of the entry point will show you if there is up lead or down lead in the blade or blade guides.</i>
Blade Overheats.	There may be excessive pitch build up on the blade, the blade may not be tensioned properly or the guides are out of adjustment. If there is excessive pitch build up on the blade and the wheels try adding a powder detergent to the lubrication system. Verify proper blade tension and proper blade tracking.

PARTS AND SERVICE

Recommended Spare Parts List

Part No.	Description	Part No.	Description
121006 	CHAIN #50 ROLLER – QTY (8 FT)	121007 	CHAIN #50 CONNECTOR LINK – QTY (4)
251001 	FLEX ELEMENT – QTY (1)	171649 	RUBBER DRAW LATCH WITH NYLON STRIKE – QTY (2)
171640 	LIFT AND TURN LATCH – CHROME – QTY (2)	131042 	SPROCKET 50BB13h X 1/2" IDLER – QTY (2)
161920 	SPROCKET 50A19 W/ 6202 X 1/2" BEARING – QTY (2)	161117 	RESAW BLADE BRUSH – QTY (2)
111264 	BELT 3BX-99 BANDED / COGGED – QTY (1)	141001 	GUIDE ROLLERS – QTY (4)
171104 	GUIDE PIN – STEEL DOWEL PIN 3/8" X 1" – QTY (8)		BAND BLADES (10)

Machine Parts List

Part No.	Description	Part No.	Description
181324 	PRINCE DIRECTIONAL CONTROL VALVE BLANKET	181003 	3/8" FLOW CONTROL
181677 	PRINCE HYDRAULIC CYLINDER 1 1/2" X 10" W/ ROD CLEVIS	181676 	PRINCE HYDRAULIC CYLINDER 1 1/2" X 4" W/ ROD CLEVIS
181404 	PRINCE HYDRAULIC CYLINDER 2" X 10"	181389 	3/8" CHECK VALVE
181678 	PRINCE HYDRAULIC CYLINDER 1 1/2" X 12" W/ ROD CLEVIS	181443 	PRINCE HYDRAULIC CYLINDER 2" X 12"

Part No.	Description	Part No.	Description
181265 	DANFOSS HYDRAULIC MOTOR BLANKET	181918 	BIMBA 500 HYDRAULIC CYLINDER
181741 	DANFOSS HYDRAULIC MOTOR	181266 	DANFOSS HYDRAULIC MOTOR (DS-80) 4-BOLT
181810 	SHEFFER HYDRAULIC CYLINDER 2" X 2" CUP SEAL/CTR PIN	181865 	BIMBA CYLINDER W/ CLEVIS PIN
181018 	FILTER AND HEAD ASSEMBLY HYDRAULIC BLANKET	181864 	REXROTH ACCUMULATOR FOR HYDRAULIC
664682 	DANFOSS HYDRAULIC MOTOR (DS-50) MILLED DOWN TO 7/8" 4 BOLT	181845 	PRESSURE GAUGE NO SHOK W/ ORFICE
181021 	PRESSURE GAUGE 1/4" BLANKET	271203 	LEESON GEAR BOX 60:1 HOLLOW SHAFT
181908 	PARKER GEAR PUMP 9 GAL PER MINUTE	662555 	1 15/16" BEARING MOUNT
101080 	BEARING 1 1/4" 2 BOLT FLANGE 5/8" BOLT HOLE	101104 	BEARING 2 7/16" 4 BOLT FLANGE
101014 	BEARING 1" 2 BOLT FLANGE 17/32" HOLE	101015 	BEARING 1 15/16" 4 BOLT FLANGE
251103 	BUSHING TRANTORQUE 1" DOUBLE NUT	251181 	BUSHING TRANTORQUE 5/8"

Part No.	Description	Part No.	Description
251106 	BUSHING TRANTORQUE 1 1/2" LONG DOUBLE NUT	251004 	BUSHING 1 1/4"
251003 	BUSHING 1"	251071 	BUSHING JAX 1 1/4" W/ 1/4" KEY WAY
251217 	BUSHING GX 3/4" TAPERLOCK	251002 	HUB
171041 	2 PIECE LOCKING COLLAR 1 15/16"	171035 	2 PIECE, 1" LOCKING COLLAR
171043 	2 PIECE LOCKING COLLAR 2 7/16"	171037 	2 PIECE LOCKING COLLAR 1 1/4"
271234 	CLUTCH 6" (F60H- 3769X1 5/8)	121030 	CHAIN SHARP TOP
121001 	CHAIN #35 ROLLER	121002 	CHAIN #35 CONNECTOR LINK
161922 	SPROCKET 35A84 W/ 1" BORE	161921 	SPROCKET 100B10F X 1" TURNED DOWN
131037 	SPROCKET 50JA12	131021 	SPROCKET 35BB20H X 5/8" IDLER

Part No.	Description	Part No.	Description
161004 	CARRIAGE WHEEL W/ SNAP RING	161912 	CARRIAGE WHEEL W/OUT SNAP RING
165727 	1 15/16" X 1" X .307" CARRIAGE WHEEL SPACER	165728 	1 1/4" X 1/2" 1 5/8" CARRIAGE WHEEL SPACER
165729 	1" X 1/2" X 1 5/8" CARRIAGE WHEEL SPACER	662563 	CAM CARRIAGE WHEEL SPACER
161914 	1 1/2" GUIDE ASSEMBLY WITH BRACKET (RGHT ASSEMBLY)	161913 	1 1/2" GUIDE ASSEMBLY WITH BRACKET (LEFT ASSEMBLY)
141001 	GUIDE ROLLER	141022 (left) 141023 (right) 	GUIDE MOUNT BRACKET
141013 	TOP 1 1/4" GUIDE PAD - QTY (2)	141014 (left) 141015 (right) 	BOTTOM LEFT & RIGHT 1-1/4" GUIDE PLATE *Available in 1 1/2" and 2"
163267 	1 1/4" SHAFT 53" FORWARD & REVERSE SHAFT	163055 	ROLLER 13" BF 11/16" HEX SHAFT 2 1/2"D, 11 GA, 15" LONG
101224 	LINEAR BLOCK SR30	101225 	LINEAR RAIL WITH THIN DENSE CHROME
101226 	LINEAR RAIL WITH THIN DENSE CHROME	101231 	LINEAR RAIL 8" WIDE BOTTOM CHROME PLATE
101232 	LINEAR BLOCK WIDE BANDSAW	662553 	GEAR RACK W/ HOLES

Part No.	Description	Part No.	Description
662554 	R&L SHAFT ASSEMBLY W/ GEAR	662556 	GEAR RACK WITH SLOTS
205150 	39.5' CABLE THROTTLE CONTROL	181020 	VESCOR FILLER BREATHER ASSEMBLY BLANKET
171077 	SPINDLE NUT N11	211068 	6" DUST CHUTE
205024 	BATTERY	205020 	BATTERY CABLE 25"
205081 	SAWMILL DIAL TAPE PLASTIC PRE-MASK	165713 	DIAL SPINDLE W/COLLAR
205219 	FUEL PRIMER BULB KIT 3/8" FOR 23 GAL FUEL TANK	161107 	5 GALLON WATER TANK
662008 	BLADE GUARD 14 GAUGE	261120 	PULLEY IDLER 2.91" X 6" SPEED

Service Contact Information

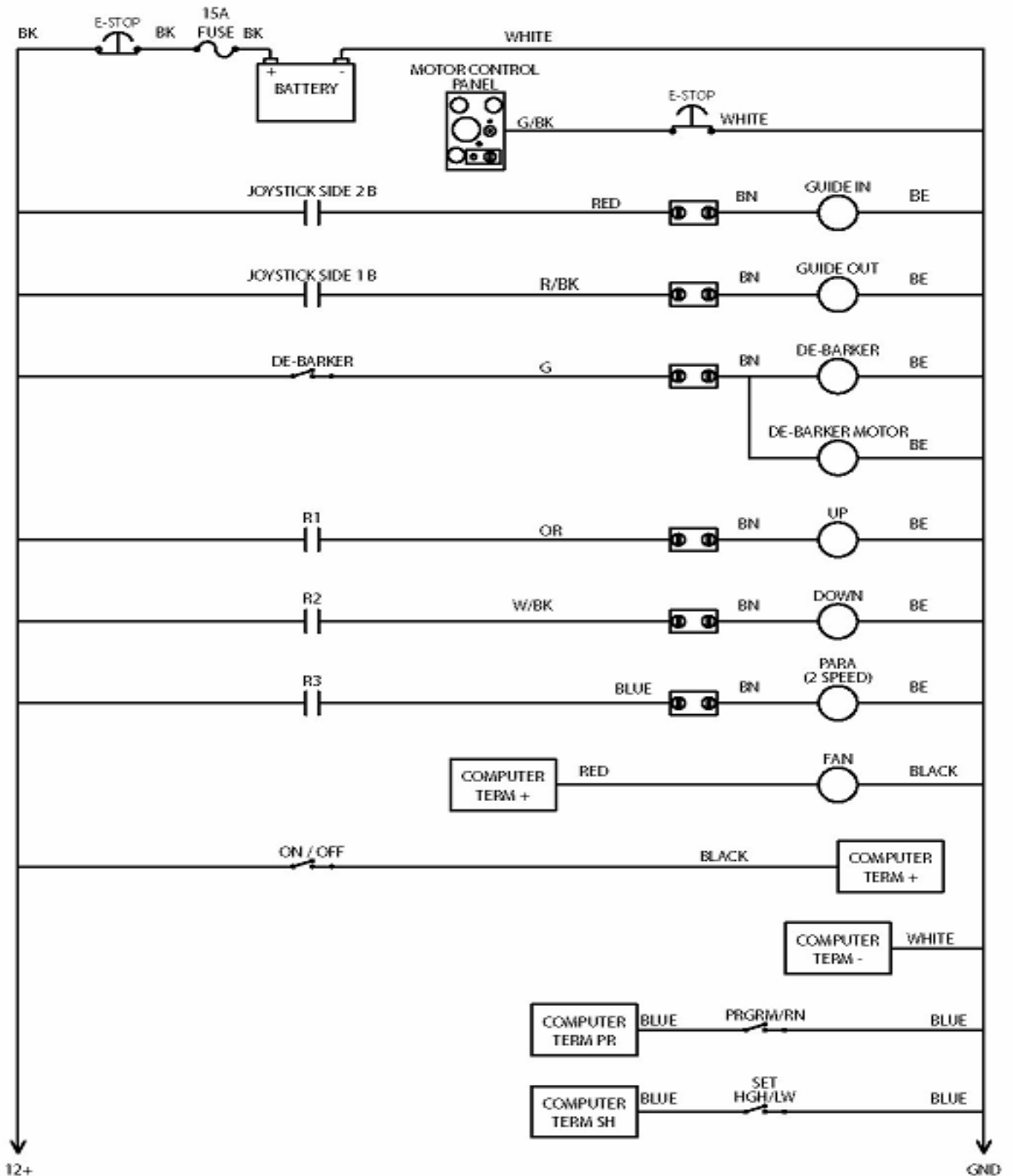
In the event that you have any problems, call us at (573) 663-7711 any time between 8:00 AM and 5:00 PM (CST), Monday through Friday.

Serial Number Location

The model and serial number are located on the front side of the machine near the operator station.

Please refer to your serial number and model number when speaking to a service technician or ordering replacement parts.

ELECTRICAL DIAGRAM



ELECTRICAL DIAGRAM (continued)

